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Foster Research Excellence for Green Transition in the Western Balkans

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**List of Abbreviations**

**EGD:** European Green Deal

**EGDIP:** European Green Deal Investment Plan

**EIP:** Economic and Investment Plan

**EIB:** European Investment Bank

**ESR:** Effort Sharing Regulation

**ETS:** Emissions Trading Scheme

**EU:** European Union

**GAWB:** Green Agenda for the Western Balkans

**GD:** Green Deal

**GT:** Green Transition

**INECP:** Integrated National Energy and Climate Plan

**JGT:** Just Green Transition

**JTM:** Just Transition Mechanism

**LULUCF:** Land Use, Land-Use Change and Forestry

**MDD:** Mean distribution deviation

**MLP:** Multilevel Perspective

**NECP:** National Energy and Climate Plan

**RNM:** Republic of North Macedonia

**TPP:** Thermal Power Plant

**WB:** Western Balkans



## 1. Introduction

The Western Balkans region is significantly impacted by climate change and pollution. Over the past decades, warming has accelerated, and throughout the 21<sup>st</sup> century it is projected to be higher than the world average (Alfthan, B et.al, 2015). The observed changes in precipitation over the last few decades are less clear, but almost all climate models agree that the region's countries will experience a significant decrease in precipitation by the twenty-first century, accompanied by an increase in drought conditions and, thus, water availability.

In the absence of adequate adaptation measures, key risks for the region arising from these hazards are manifested to a vast extent and include economic and livelihood losses, increased mortality and morbidity, decreased public safety, impaired ecosystem functioning and the loss of species, and decreased energy security due to water scarcity. Many of these impacts are not only a future issue but also a present-day concern.

While Just Green Transition concept and approaches are embraced at a global level, the process towards this transition in the WBs is progressing at a very slow pace and little is done in regard to societal preparedness for JGT. The “transition” itself signals for epochal change, and at the same time unfolds uncertain futures for the affected economies. In this context, the WB countries have long been in the loop of the post-socialism transition, what Smith et al. (2005) calls a ‘purposive transition’, characterised by a deliberate goal pursued as of the outset of transformation, with an explicit set of societal expectations and drawing heavily on external resources, aid and political orientation.

Confronting this, the green transition is equally purposive (Geels, 2011) for the Western Balkans, considering its embeddedness within the EU green agenda, the EU integration process, and the structural and technical weaknesses in the region which inhibit it from producing bottom-up niches of change. Petrov (2014) characterises the post-socialist purposive transition as ‘teleological’ for the CEE, with the regime change appearing as “purposeful, preordained, and therefore predictable, virtually unstoppable, and impelled by a future goal”, which serves as the “defined end of the transition process” (p.30).

The contextual territorial factors, which should be accounted for in the respective local and regional strategies. Carothers (2002, p.8) would call the latter “the underlying conditions ... the economic level, political history, institutional legacies, ethnic make-up, sociocultural traditions, or other ‘structural’ features”, all of which are equally relevant and important in defining how this new transition would evolve within the Western Balkans region. These underlying factors correspond with the sociotechnical landscape in which regimes are set and change (transition), and count for the spatial structure of cities, economic growth and social factors, normative values and environmental problems, as well as potential disasters and political dynamics. In the Western Balkans, the underlying conditions, coupled with the fatigue from a stagnating process of EU integration, conflicting narratives, dominant-power politics, corrupted institutions, and huge territorial disparities, have produced an agony of ‘never-ending transition’, which suggests that resistance to change may be notably present for the green transitions as well.

On a policy Level, to achieve climate neutrality by 2050 the EU adopted a new growth strategy, called The European Green Deal, (COM (2019) 640 final), which among others requires amending and creating transformative regulations, directives and decisions focused on eight main elements. The EGD has laid forward a Green Agenda for the Western Balkans (GAWB), not only in terms of fulfilling the *acquis* conditions, but also as an emergent need for societies to interact and cooperate in view of climate changes. Yet, Western Balkan countries still fall behind the EU with regard to fighting, mitigating and adapting to climate change, lacking at the same time a holistic



approach for transforming all relevant policies (national and regional) into climate-sensitive. A lack of general knowledge and awareness persist in the region, there are no studies on the impact of the limited JGT practices so far as well; and to date, no ex-ante assessment on the effects of future interventions is undertaken.

Although an important step was taken by leaders of the region signing the Sofia Declaration, reaching the abovementioned goals cannot be accomplished overnight, but it rather takes strong political will and enthusiasm by all stakeholders involved in the process, including driving agents and partners such as the Regional Cooperation Council, or distinguished NGOs and think tanks, that play a crucial role in pushing forward the Agenda's ambitions.

In this context, Conceptualizing the Just Green Transition for the WB is a complex task. Apart from requiring the involvement of several stakeholder and institutions from all countries in the region, both contextualization and conceptualization process is faced with the theoretical gaps that subsist in the definition of basic concepts such as transition and justice and the continuous evolution of the thought on just sustainability transitions. On the other hand, transiting to climate-neutrality is not without costs and to achieve its benefits, the countries and the region as whole should prepare ahead, not only at governmental level, but at societal level. This requires for a societal understanding inclusion to envision localized inclusive of Green Transition objectives, actions and impacts goals.

The purpose of this document is to provide an overview of how Green Transition may be conceptualized in the Western Balkans, particularly with respect to the initial preparatory phase, the role of the various societal actors, their cooperation to achieve the ambition, and finally including the economic impacts (costs and benefits) that the transition will have on the society.

Pre-estimations of Knowledge on costs and benefits is necessary to achieve a roadmap to just and inclusive transition, that does not lead to poverty, marginalization, or even violation of human rights, intended or unintended.

On a methodological note, this document makes its first attempt in unravelling key theoretical concepts related to Just Green Transition, while provides at a same time a summary of Green Transition efforts in the WB to date, in the frame of the EU Green Deal and defines common key elements for the just and inclusive Green Transition of the WB. Additionally, it builds on two methodological processes undertaken in the frame of GreenFORCE: i) the mapping of policies and current initiatives in the WBs and ii) The co-design processes bringing together the discussion of various stakeholder's on JGT in the region.

To deepen the discussion and further the efforts towards conceptualisation of JGT in WBs, a research case study approach is presented and introduced in the document. The need for these (5) JGT research cases, as proposed in the specific chapter below, stems directly from one of the specific objectives of GreenFORCE, which focusses on generating knowledge through carrying out exploratory and comparative research on JGT processes, policies, costs and impacts, and their relation to the spatial and regional setting in the WB.

The research is an empirical effort in terms of observing the interrelation between just green transition and place specificity, with a particular focus in the Western Balkans as countries and as a region. The selection of cases (presented in detail below) do not intend to achieve full comparison between each other, rather aim to identify common elements at the regional level, and list key aspects that could be used to formulate policy recommendations for each of the sectors addressed by the cases. Therefore, while no one unique research question could be formulated for all of the cases, all of them would seek to respond in varying degrees and through different sectorial and country perspectives to a set of questions which we identified based on the theoretical conceptualization.





In this way, we hope not only to bring salient answers on the potential future impacts of green transitions in the Western Balkans societies, but also shed light in the regime-landscape interaction and how such an interaction can vary depending on its spatiality.

Finally, the research efforts aim at identifying the endogenous potential for just green transition in the Western Balkan and contextual factors that define the related prospects and trajectories of innovation (Maassen, 2017), ensuring social justice.

**\*Important note**

This report is the first deliverable of the research activities within GreenFORCE, envisaged to respond to the specific objective mentioned at the beginning of this section. The current version, numbered 1.0 comes as the effort of the involved researchers to make the first attempt of conceptualising the just green transition in the Western Balkans, based on the mapping of policies, actors and practices, as well as on two co-design workshops conducted during November 2022. After the submission of the report as a deliverable (D4.1), the researchers will initiate the research focusing initially on two steps: the further development of the theoretical concepts (already introduced in section 4.1) and the testing of the research instruments as provided in the remainder of this chapter. The continued in-depth theoretical review will cover not only the base theories of sustainability transition and justice in transition, but will also focus on theoretical insights that are particularly relevant to spatiality and *placeness* in the sectors that each case study represents.

The in-depth review of theoretical insights and state of the art will nurture a critical discussion on just green transitions in the Western Balkans region and, together with the results of the testing of research instruments, and shall enrich the v2.0 of Deliverable 4.1 also reviewed by the Research Advisory Board by spring 2023, as foreseen in the GreenFORCE plan of activities. The v2.0 of D4.1 shall be published next to v1.0.



## 2. Unravelling of the theoretical concepts related to JGT

Conceptualising the Just Green Transition for the WB is a complex task. Apart from requiring the involvement of several stakeholder and institutions from all countries in the region, both contextualisation and conceptualisation process is faced with the theoretical gaps that subsist in the definition of basic concepts such as transition and justice and the continuous evolution of the thought on just sustainability transitions.

Bearing this in mind, this chapters makes a first attempt to theoretically unravel and provide an overview of “transition concepts” that prevail in the Western Balkans. A better understanding of the concepts, contextualised further on a policy overview spectre, as well as fed with empirical information based on a case study approach, would help in the process of “conceptualising” Just Green Transition for the Western Balkans.

### 2.1 Overview of “transition” concepts vis-à-vis the Western Balkans

The open-ended processes of power, political and societal transformation that initiated with the fall of the socialist regime/s around the beginning of 1990s, marked down the so-called post-socialism transition (Müller, 2019; Petrov, 2014) of the affected Central-East European (CEE) countries. The term ‘transition’ in particular, was largely employed among scholars in political sciences, policy-makers and even lay people as a concept encompassing an historical period after the fall of communism (Petrov, 2014), to the extent that it would be used to label the CEE countries as ‘transition countries’ (Carothers, 2002). This transition was signalling epochal change, and at the same time unfolding uncertain futures for the affected economies, which with time embarked on varying hybrid political models, regardless of the path designated by the Western agencies, lying on privatisation, liberalisation and democratisation (Müller, 2019).

In transiting towards democracy, the countries of the Western Balkans, were also offered a trajectory of integration into the European Union, as part of which they had/have to undergo structural and political reforms, including improvement of economic and political governance, rule of law, freedom of media and strengthening of civil society (European Commission, 2018). This process of integration has entered an undefined pathway time-wise, mostly because the process of transition has also moved away from its original course, towards democratic shortfalls, such as poor representation of communities’ interests, insufficient levels of political participation, disputable elections, low levels of public confidence and trust in governance, low levels of governance performance, etc. Carothers (2002) brings up these features in his analysis of the ending transition paradigm in 2002, they remain valid in the Western Balkan context to date.

Yet, after experiencing the harsh change of their socio-economic and political regimes by the end of the 20<sup>th</sup> century, and while being currently in limbo with numerous political and economic reforms, the Western Balkan governments are lined up as supporters and implementers of the European agenda for green transition. This is as much a necessity to join forces in a pan-European commitment for tackling climate challenges and ensuring the environmental sustainability of the planet, as it is a requirement of integration. But, embarking the green transition does not come without challenges for the countries of the Western Balkans. Indeed, it is hard for a region of unaccomplished transition towards democracy and unconsolidated governance, but with societies constantly running towards an ‘ideal of institutions’ – the EU, and hopefully state of economic prosperity, to imagine re-entering a new transition, though of a different meaning and magnitude.



To start with, there is a mentality barrier to overcome, which relates to a stigmatised 'political transition', for both its temporal length and its outcome in terms of hybrid post-authoritarian regimes, diverged from the initially set objective of market capitalism and democracy. The post-socialism transition in the Western Balkans is what Smith et al. (2005) call a 'purposive transition', characterised by a deliberate goal pursued as of the outset of transformation, with an explicit set of societal expectations and drawing heavily on external resources, aid and political orientation. It is from this type of transition that the Transition Management approach (Rotmans et al., 2001) takes its leap, analysing, among others, the role of external stakeholders and resources in carrying out (maybe even initiating) the transition. The green transition is equally purposive (Geels, 2011) for the Western Balkans, considering its embeddedness within the EU green agenda, the EU integration process, and the structural and technical weaknesses in the region which inhibit it from producing bottom-up niches of change. Petrov (2014) characterises the post-socialist purposive transition as 'teleological' for the CEE, with the regime change appearing as "purposeful, preordained, and therefore predictable, virtually unstoppable, and impelled by a future goal", which serves as the "defined end of the transition process" (p.30). He also denotes further that the post-socialism transition of the CEE countries did not advance in the pathways or towards the goal defined by the Western agencies, as, among others, it was not informed by its wider historical context, and because it was reduced to a unique joint model to follow, regardless of the heterogeneity and idiosyncrasies within the region. It may be simplistic to deduce on the Western Balkans green transition future by employing a path-dependency thinking, but at least one should be cautious as there are premises for the history to repeat itself.

This leads to the second challenge the green transition in the Western Balkans may face – the contextual territorial factors, which should be accounted for in the respective local and regional strategies. Carothers (2002, p.8) would call the latter "the underlying conditions ... the economic level, political history, institutional legacies, ethnic make-up, sociocultural traditions, or other 'structural' features", all of which are equally relevant and important in defining how this new transition would evolve within the Western Balkans region. If utilising the Multilevel Perspective (MLP) approach of sociotechnical transitions, including that on sustainability, (Geels, 2002; 2011), these underlying factors correspond with the sociotechnical landscape in which regimes are set and change (transition), and count for the spatial structure of cities, economic growth and social factors, normative values and environmental problems, as well as potential disasters and political dynamics. In the Western Balkans, the underlying conditions, coupled with the fatigue from a stagnating process of EU integration, conflicting narratives, dominant-power politics, corrupted institutions, and huge territorial disparities, have produced an agony of 'never-ending transition', which suggests that resistance to change may be notably present for the green transitions as well.

### Sustainability Transitions

While transition studies initiate in biology and population dynamics, to continue with demographics, health, and most importantly [organisational] management and technological innovation scholarship (Rotmans et al., 2001), they have evolved from these sectorial or micro-scale focuses, towards the complex sustainability transitions, such as the European green transition. Sustainability transitions come with a number of special features, such as spatiality, large scale of multiple transformations, focus on finite natural resources which are owned collectively, the legacy of the complexity that characterises environmental sustainability, and the tensions that arise between growth sectors and private actors on one side and the public on the other regarding property rights and ethical implications on resources.



The spatiality and placeness of sustainability transitions rest on the above mentioned 'underlying conditions', which vary within and among territories. In sustainability transition studies, the spatial dimension, though not fully researched and with little consensus on how does it shape or matter for transitions (Cedergren et al., 2022; Maassen, 2017; Hansen and Coenen, 2015; Smith et al., 2010; Caproti and Harmer, 2017; Fuenfschilling, 2017), has become increasingly prominent. The research, based on case studies and experiments (see for instance Frantzeskaki et al., 2017) mostly adds or applies the spatial dimension to current frames for studying transition (Hansen and Coenen, 2015), such as Transition Management or the MLP. The potential need for a new analytical frame studying the sustainability transitions as a spatial phenomenon is highlighted in literature (Hansen and Coenen, 2015). For instance, the competitive pressures that push organisations towards change "come in technological, political, economic, social and demographic areas" (Hunsucker and Loos, 1989, p. 167) and organisational goals are set within such large contexts, including cultural factors (ibid.), which are intrinsically spatial. The MLP puts these aspects at the 'landscape' level, borrowing the term from spatial sciences. However, this term remains a metaphor, not being introduced in the transition literature with a specific spatial connotation or definition within geography (Hans and Coenen, 2015). The elements composing the landscape are of spatial nature, which means that, even if in indirect or unintentional ways, the spatiality of the transition would not go unaddressed or at least unnoticed. Nonetheless, by not giving it a proper theoretical position, there is a risk that implications of spatiality in transition and vice-versa are either under-analysed or ill-conceptualised in transition policy-making.

Transitions imply a profound change (Loorbach et al., 2019) shifting a social entity from its current status to an altered one, presumably improved, to incorporate new features that are either desirable or contribute to solving problems of the current system. In sustainability transitions, the change is societal and multilevel, multi-institutional, and cross-sectorial, affecting multiple regimes such as socio-technical, socio-ecological and political and governance regimes, as well as the set of values, ideas and perceptions about the world (Cedergren et al., 2022; Hans and Coenen, 2015; Kemp et al., 2007; Rotmans and Kemp 2003), and ethics and morality of the society. These multiple transformations make sustainability transitions highly complex, and also hardly foreseeable, even in the best cases of planning for the transition (Hunsucker and Loos, 1989), due to the dynamic interplay between its dimensions of time, space, sectors and systems affected, actors, and purpose or targets.

Additionally, this complexity is carried in the continuous evolution of sustainability as a norm that promotes equity and justice within and among generations and in socio-ecological interactions (Derissen et al., 2009; United Nations, 1987). Sustainability "meets the needs of the present generation without compromising the ability of the future generations to meet their own needs" (United Nations, 1987, p.24) and is therefore neither a fixed state of harmony, nor an identifiable state (Kemp et al., 2007), coping with both the certainty and the uncertainty of change (Handmer & Dovers, 1996). The extent the stock of natural resources has to be maintained, can be adapted and can absorb the disturbance that causes the change, is a primary question of development for sustainability (Derissen et al., 2009) and it is responded by the resilience of the system. This means that while a system is dynamically learning to become robust and to increase its adaptive capacity (Perrings, 2006), it continuously self-modifies and reaches new equilibriums. This being said, sustainability may be an objective of the transitions, but what exactly sustainability entails at each specific moment in time and space cannot be a fixed objective, due to the modifications and the new equilibriums coming up as smaller sub-objectives that keep changing to satisfy the societal needs and demands. Therefore, sustainable development itself is in constant transition and the sustainability transitions, constitute continuous process of rearrangement and rebalancing between the ever-



changing human demand for biosphere's products and services and biosphere's capacity to meet and respond to this demand.

Due to the very conceptualisation of sustainability, its transitions affect and involve all societal layers and groups. The stakeholders involved have various roles, with those doing the transition seldom being the ones thinking/conceptualising the transition (Petrov, 2014), particularly in the case of complex purposive transitions. Such discrepancies may lead to failures and divergence from the primary purpose of the transition. The transition management theory suggests that communication between stakeholders is vital to a successful transition (Hunsucker and Loos, 1989), and in sustainability transitions communication extends to all members in the society, ensuring public support (Rotmans and Kemp, 2003; Rotmans et al., 2001), involving knowledge exchange between all actors in the quadruple helix, and educated decision-making by the stakeholders. In transitions, change agents are needed and play an important role, guiding the society through change. The change agents may be internal to the society or external. In the purposive sustainability transitions for the WB, the change agents are both internal and external, with the former usually located within local niches – mostly businesses or knowledge making agents such as academia and NGOs/research institutions, and the latter mostly bringing in expertise, introducing new technologies and processes, pushing for policies that pave the way towards innovations and smart specialisations, and striving to align the exogenous political agendas of change with the internal political trajectories and power dynamics. It is expected that a good balance between the roles of the internal and external change agents would make the transition successful, particularly in a historical setting of teleological transitions, such as the Western Balkans. Adopting the terminology of Hunsucker and Loos (1989), the external change agents could as well be change sponsors who push a transition agenda and legitimise it. On the other hand, the internal change agents may be blurred within the change target group (those who should change behaviour and transit to a newer level), if they are not empowered enough as to absorb the change and take ownership of it at a society's level, hence moving up from their innovation niche towards altering the regime they are to affect. The risk for this to happen in the sustainability transitions of the Western Balkans is high. So far, the internal change agents are mostly businesses striving to increase the efficiency and profit of their activities rather than stakeholders aware of the necessity for the regime to transition towards a new sustainable level. Furthermore, research institutions, regardless of their understanding for a societal engagement, also come in with fragmented interventions, searching for policy and political frameworks to embed their ideas and innovations. The government capability for leading the transformation is also weak, with low technical capacities and financial resources (Maassen, 2017).

### Justice in sustainability transitions

In the 1970s and 1980s the US and Canadian trade unions adopted the 'just transition' term to express their concern about the effects that environmental protection policies would have on their workers' jobs (Abram et al., 2022; Cipler and Harrison, 2019; Smith, 2017; Knight, 1998). Since then, the concept of 'just transition' is established in the International Labour Organisation (ILO) Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for all, endorsing seven policy principles: i) strong social consensus on the goal and pathways towards sustainability; ii) policies that respect principles and rights at work; iii) policies and programs that take into account the gender dimension; iv) coherent sectorial and cross-sectorial policies that provide a transition enabling environment for enterprises, workers, investors and consumers; v) sectorial policies that provide a just transition framework for all; vi) policies and programs that reflect the specific conditions of countries; and vii) sustainable development strategies that foster international cooperation among countries. The Sustainable



Development Goals (SDG) of the United Nations also represent the agenda for just transition since 2015, where the goals of decent work for all, clean energy for all, climate protection and poverty eradication have a particular attention on the matter (Smith, 2017). With the SDG and furthermore the COP21 Paris Agreement, the need for change and shifting away from fossil fuel-based economies is not anymore simply an option and neither is questionable, but it rather is a designated overall societal and policy direction (Loorbach et al., 2017) to be achieved through sustainability transitions and embracing multiple forms of justice (Abram et al., 2022). Though stemming mainly from major technological changes for the decarbonisation of the energy sector, the transition need is not merely a representation of technological shifts, but “power struggle and socio-cultural change having a deep effect on incumbent institutions, routines and beliefs” (Loorbach et al., 2017, p.601).

Smith (2017) emphasises that the society has options in terms of how it manages the transition, so that not only the sustainability goals are achieved, but the just and fair dimensions of the transition are maintained as well. Choosing among the options or crafting the right ones, is a matter of transition governance, supported by transition policies, and most importantly involving transition stakeholders into transparent processes of communication and decision-making that aim to solve or address the transition tensions. These tensions are firstly rooted in the very core notion of sustainability, where a set of values such as utility, equality, fairness, welfare, poverty reduction, quality of life, and moral, ethical, cultural, aesthetic, and purely scientific reasons for nature conservation are at stake. Cipler and Harrison (2019) coin three types of tensions between sustainability and justice under the frame of these values, namely the sustainability-inclusivity, sustainability-recognition and sustainability-equity tensions. Such tensions are the result of the change, which always produces uncertainty and fear of the unknown; of potentially losing value systems and rights; of being disregarded in the change making process; of being able or not to undertake the optimal (and just) social and institutional arrangement to govern the change; of inequity in the distribution of resources, costs and benefits, and of exclusionary policy decisions that produce unequally distributed effects across social groups and territorial scales (Knight, 1998; Fraser, 1998; Cipler and Harrison, 2019; Abram, 2022). Fear produces opposition and conflict (within and across generations), which need to be addressed with fair and just measures, supported in particular by social dialogue and participatory and informed decision-making (Smith, 2017).

After underlining that the just transition concept is far from a consolidated theoretical definition – especially due to the open discourse on justice for two millennia (Knight, 1998; Jackson, 2005), but also due to the evolving theoretical unpacking of transitions, Abram et al. (2022) attempt to provide a holistic frame for justice in transitions, covering all dimensions of modern conceptualisation of social justice. They define these dimensions into recognition, procedural, distributive and restorative justice. In 1998, Nancy Fraser would describe social justice as falling under two typologies, namely redistributive justice concerning fair distribution of resources and goods in the society; and recognition and participatory justice. *Recognition* as justice comes from parity of participation in social interaction (ibid.). Abram et al. (2022) explains that in sustainability transitions, recognition justice makes sure that contextual inequalities, vulnerabilities, risks associated with change and other place-based conditionalities are made known and accepted by the transition stakeholders. Awareness of spatial unevenness is crucial in understanding that not all places and regions start a transition at the same level or speed, and this should be accounted for in the design, implementation and governance of policies of transition.

*Procedural or participatory* justice on the other hand makes sure that the plurality of perspectives stemming from the diversity of socio-geographical constructs is actively engaged in the transition’s policy discourse. John Rawls, perhaps the most influential social justice philosopher of 20<sup>th</sup> century, while contrasting with utilitarian accounts, raised the question of a just society in the unavoidable context of social and philosophical diversity (Knight, 1998;



Rawls 1993/2005), which is furthermore set in spatially diverse contexts. However, regardless of the challenges the question of justice in diversity may raise, the hallmark of policies for just transition remains being people-centred, engaging all stakeholders in decision-making and/or in the policy-making dialogues, recognising all different needs and potentials of affected/relevant stakeholders and being inclusive by design (Government of Canada, 2021). Participation and inclusion in the transition governance should allow room for debate and contestation, not necessarily engineering consensus (Abram et al., 2022), but producing place-based solutions to the global challenges of the sustainability transition. For instance, sustainability projects have had a tendency to neglect citizen knowledge on the scientific and technological challenges that the society should overcome to achieve the green transition (Ciplet and Harrison, 2019). However, this is gradually changing with the several research initiatives (for instance Horizon 2020/Europe) that focus on local citizen science and responsible research and innovation practices of regional ecosystems. Yet, these processes are rather slow, due to a gap that exists in lay peoples' understanding and acceptance about sustainability issues and phenomena, often interlinked with cultural norms, traditions, vulnerabilities, and unique connections to space, and the aims of policy-makers to achieve efficient environmental goals based on science and technological development.

A meaningful challenge for just transitions is securing the funding and resources needed to support the transitions (GIZ, 2021), and how are these allocated or distributed fairly and justly. Additionally, there are the impacts on workers, communities and consumers, coming out of the transformation of the involved sectors in terms of technologies, policies that guide the sectors, the employment and job opportunities or losses (GIZ, 2021), and the affordability of green services. The efforts to securing funding and resources, and the impacts extend to the territories affecting quality of life from the personal to the ecological sphere, and from life enablers and maintenance to life flourishing dimensions (Sessa et al., 2020). As such, the *distributional* justice of the transition is concerned not merely with the knowledge of impacts and how to smoothen them when negative, but also how to share in a just and fair way the costs and benefits of the JGT in socio-spatial constructs and layers. Both, costs and benefits relate to the sustainable development that JGT is promoting, hence come in all three dimensions of sustainability – social, economic and environmental. In fact, focusing on sustainability initiatives is a must for the world in view of expected climate change scenarios, but it may come at a cost of justice, by potentially producing socio-spatial inequalities, well beyond the employment discourse (Abram et al., 2022) that initiated the JGT conceptualisation, thus undermining the very principles and values of sustainable development.

Finally, perhaps the most neglected dimension of transitions' frameworks is the *restorative* justice (Abram et al., 2022), which in itself is strongly related to the distribution and allocation of support or guidance and resources for undergoing the transition. Restorative actions should move beyond merely reactive compensation schemes, to proactive development programs, hence to growth models and strategies that ensure sustainability, such as the EU Green Deal (European Commission, 2019).

The *spatial dimension* of justice comes across the four dimensions of social justice. The spatial dimension is commonly discussed by regional [development] sciences in terms of socio-economic disparities and policies and instruments to eliminate/overcome them (Dikeç, 2001; Cedergren, 2022), which reflect differences between territories or among places as socio-geographical constructs, as well as in terms of distribution of infrastructures, services and production activities. Social justice cannot be reduced merely to distribution (Dikeç, 2001). Injustice in the city comes through dominion of urban space by specific groups, for instance by gentrification processes, where a wealthier socio-economic group gradually displaces a poorer one by pushing up the value of real estate, and is produced both socially and spatially.



Beyond the city itself, phasing out industries and industrial processes generally goes hand-in-hand with the emergence of new industries and processes. This transition often results in winners and losers, not only businesses and their employees, but also spatially across regions. For instance, the closure of an industry (e.g. coal mine) in one region can lead to a loss of jobs and wealth creation, while the development of alternatives (e.g. hydropower plant, windfarms, etc.) can bring opportunities to another region. In the context of the Green Transition, these processes are policy induced, but otherwise, this happens all the time in the marketplace via creative destruction, whereby disruptive innovations lead to the obsolescence of competing technologies, bringing new businesses up to the market and pushing others out. In this landscape of continuous competition, between businesses and between regions, policy tools need to be in place to support regions' long-term resilience by supporting business innovation systems and regional economic path creation. In the EU, Smart Specialisation Strategies (S3) are essentially the industrial innovation policy at the regional level (Asheim B., 2019), by which regions are meant to facilitate 'discovery processes' for new specialisations to emerge, leading to economic diversification and path creation (Wøien Meijer & Giacometti 2022).

### 3. Policy Review on Green Transition policies for Europe and the Western Balkans

#### 3.1. A European Green Deal – “the first climate-neutral continent”

The European Green Deal, (COM (2019) 640 final), is the growth strategy of the EU, which through its policies and measures intends to achieve Europe's climate neutrality by 2050, making EU the first net-zero continent, and turning this target into law. To achieve this goal, the European Green Deal (EGD) revisits, renews and creates (if needed) policies for alternative actions amongst several sectors such as: energy, infrastructure, industry, mobility, agriculture etc., by exploiting the synergies across these areas and using innovation and digitalization to accelerate the process.

By taking such actions and continuing to ensure that all relevant legislation is rigorously enforced, the EU aims to become a solid example internationally of what can be achieved with appropriate approaches to tackle climate and environmental challenges currently threatening our societies.

##### 3.1.1. Europe's Commitment to Tackling Climate Challenges

To achieve climate neutrality by 2050 the EGD requires amending and creating transformative regulations, directives and decisions focused on eight main elements. These policies in and of themselves are cross-sectorial therefore fall as parts of more than one element.

The respective elements are: (1) Increasing the EU's climate ambition for 2030 and 2050; (2) Supplying clean, affordable and secure energy; (3) Mobilising industry for a clean and circular economy; (4) Building and renovating in an energy and resource efficient way (5) Accelerating the shift to sustainable and smart mobility; (6) From 'Farm to Fork' for a fair, healthy and environmentally-friendly food system; (7) Preserving and restoring ecosystems and biodiversity; (8) A zero pollution ambition for a toxic-free environment. At the foundation of the green deal elements stand the financing of the transition and the implementation of a just transition under the motto “Leave no one behind” (European Commission, 2019).

By increasing the EU's climate ambition for 2030 and 2050 the EU's greenhouse gas emission reductions target for 2030 was changed from 40% to 55%, compared with 1990 levels. This entails the alterations of the Emissions





Trading System Directive by: (1) reducing emissions from energy-intensive industries part of the Emissions Trading Scheme (ETS) Sector to 61% by 2050; (2) reducing emissions from the Effort Sharing Regulation (ESR) sector to 40% by 2050, for which each member state has a separate target; (3) Increasing the carbon removal, as well as decreasing carbon emissions through strategies in the agriculture, land use, land use change and forestry sector. The policies in the EGD aim to prioritize energy efficiency by simultaneously addressing energy poverty, making more use of sustainable energy sources, as well as decarbonizing the gas sector and achieving an efficient use of fossil fuels. This is being done through different forms of fuel pricing (including the introduction of C-BAM, carbon boarder adjustment mechanism), alterations in taxations for the marine, transport and built environment sectors and through introducing alternate fuel infrastructures. In addition, research and innovation are also key to strengthening the entire GD process, as solid enablers of change.

Throughout the GD implementation EU plans to provide financial and technical assistance for several member states, particularly those impacted the more from the move towards a low-carbon economy, via the Just Transition Mechanism (JTM) (European Commission, n.d.). This mechanism helps in achieving the EU's ambition to leave no one behind in the process, not only advancing the simultaneous transition for all member states and societies, but also ensuring justice and fairness in the implementation of the GD actions and related impacts.

The complete financial details of the EGD are noted in the European Green Deal Investment Plan (EGDIP) (European Commission, 2020), which should gather at least €1 trillion to back sustainable investments throughout the next decade. This amount is expected to be mobilised through a number of components: (1) The EU budget from 2021 – 2027, which will be investing in climate and environment-related objectives, will provide €503 billion. This will then initiate additional national co-financing structural funds of around €114 billion; (2) InvestEU will leverage roughly €279 billion of public and private investments from 2021- 2027 of private and public investments related to climate and environment. It will provide an EU budget guarantee of €26.2 billion (Union, InvestEU fund, n.d.) to allow the European Investment Bank (EIB) Group and other implementing partners to invest in further projects as well as riskier ones, relying more private investors. (3) The JTM will mobilise at least €100 billions of investments from 2021-2027 with financing coming from the EU budget, co-financing from Member States as well as contributions from InvestEU and the EIB. The JTM is estimated to mobilise around €143 billion throughout ten years; (4) The Innovation and Modernisation funds, which are funded from a portion of the revenues from the auctioning of carbon allowances under the EU's ETS, will provide roughly €25 billion for the EU's transition to climate neutrality, with a special focus on lower-income Member States in the case of the Modernisation Fund.

Ultimately, to obtain a successful green transition, the process needs to be fair and socially impartial. The societal features of shifting energy systems should be the top priority of the transition, considering Europe's slow recovery from the COVID-19 pandemic, the current economic turbulence and the global consequences of Russian hostility against Ukraine. The later becomes especially important considering the direct impact of retaliatory measures in response to EU's sanctions, which have skyrocketed the energy prices, threatened food security, and overall economic stability within the union and by domino effect the Western Balkans.

Considering that the EGD is a major undertaking that requires a number of elements to be applied to attain climate neutrality, the challenges ahead are numerous and significant. They mostly relate to the preparedness of the society and institutions for implementing the transition and facing its impacts, while benefiting in a fairly equal way from its intended results. This requires for institutions to reform in setting the policy and financial basis of the transition actions, while facilitating the generation of knowledge needed for the transition to take place. Oliver et al., (2021) argue that while the EGD provides the strategic foundation to the transition, its implementation is highly



depended on the governance systems and related knowledge, which are still inadequate to cope with the need and deliver the necessary policies. Finally, the society should also embrace the transition, based on knowledge and trust transmitted by the institutions, but also through access to information and decision-making. In the EGD it is noted that “The Commission will consider revising the Aarhus Regulation<sup>1</sup> to improve access to administrative and judicial review at EU level for citizens and NGOs who have concerns about the legality of decisions with effects on the environment. The Commission will also take action to improve their access to justice before national courts in all Member States. The Commission will also promote action by the EU, its Member States and the international community to step up efforts against environmental crime.” (p.23).

### 3.1.2. Key strategic documents and their impact in the European Union and Western Balkans

Some of the instrumental documents of the EGD are:

- (1) The ‘Fit for 55’ package (European Council, n.d.) which aims to remodel and put in place new legislative initiatives related to climate, energy, and transport. This contains the revisions of EU ETS, aviation and shipping emissions, the LULUCF regulation, CO<sub>2</sub> emission standards, renewable energy directive, energy efficiency directive, energy tax directive, directive on the deployment of alternative fuels infrastructure, energy performance of buildings directive, third energy package for gas, as well as the creation of the carbon border adjustment mechanism, ReFuelEU - Aviation for sustainable aviation fuels, FuelEU - Maritime for a green European maritime space, a social climate fund and plans for reducing methane emissions in the energy sector. Its main impact will be to reduce emissions by at least 55% by 2030, in order to be able to reach climate neutrality by 2050;
- (2) The European climate law regulation (European Commission, 2020a) makes the commitment to reach climate neutrality by 2050 a legal obligation to all member states. This will hold them liable, ensuring they create and maintain sustainable practices going forward;
- (3) ‘Farm to fork’ strategy (European Union, n.d.a), aims to make the EU’s food system a more sustainable model by guaranteeing that the food chain (from food production, transport, distribution, to marketing and consumption) has a neutral or positive environmental impact and will assist in alleviating climate change by adapting to its impacts and retreating the loss of biodiversity. In addition, it is intended to provide food security, nutrition and public health, preserve the affordability of food, all while generating fairer economic returns in the supply chain;
- (4) The EU biodiversity Strategy 2030 (European Commission, 2020e), intends to ensure the regions biodiversity and ecosystems are restored, resilient and protected in order to benefit the people, planet, climate and economy;
- (5) The EU Forest Strategy (European Commission, 2021b), builds on the biodiversity strategy and aims to adapt Europe’s forests to the new weather conditions and high uncertainties brought about by climate change. This will make sure forests continue their socio-economic functions and will result in thriving country-sides;
- (6) EU Strategy on Adaptation to Climate Change (European Commission, 2021c), which intends to make our approach to climate change smarter, swifter, more systemic and increase international action on it, in order for us to ease the impacts resulting from it;

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<sup>1</sup> Regulation (EC) No 1367/2006: This regulation allows individuals and non-governmental organisations (NGOs) to launch proceedings before the European Courts against the decisions of EU institutions and bodies and ensures EU’s compliance with the Aarhus Convention



- (7) EU Industrial strategy (European Commission, 2021a), supports the twin transition to a green and digital economy, make EU industry more competitive globally, and enhance Europe's open strategic autonomy, with a particular focus on small and medium enterprises (SMEs). Actions in this strategy will lead to the strengthening of the Single Market, reduction of supply dependencies and acceleration of the twin transitions;
- (8) EU chemicals strategy for sustainability (European Commission, 2020f) supports moving towards a toxic-free environment and ensuring chemical production going forward is done in a way that will maximize their positive contribution to society and will reduce their environmental impact;
- (9) Circular economy action plan (European Commission, 2020h), the circularity created through is expected to have a positive net effect on job creation provided that workers acquire the skills required by the green transition;
- (10) The Just Transition Mechanism, which provides financial and technical support to the regions that will be more affected by the move towards a low-carbon economy. The JTM ensures that these regions have support and a smooth path towards a sustainable future;
- (11) 'Renovation wave' initiative for the building sector (European Commission, 2020b), will result in buildings becoming less energy-consuming, more liveable, and healthier, as well as cities becoming greener and better connected with nature. This will also bring about the appearance of different professional profiles;
- (12) European Climate Pact (European (European Commission, 2020g), which provides a platform for a continuous bottom-up approach to change behaviour amongst the population regarding climate change;
- (13) Green Agenda for the Western Balkans, is a way to include the states of the region in the EGD. It is based on five pillars which aim to mitigate the impacts from climate change in the region to ultimately alter the air and living quality of these countries. Gradually this will be obtained through phasing out fossil fuels (decarbonizing), investments in renewables, further protection of biodiversity, etc.;
- (14) Sustainable finance strategy has a key role to play in delivering on the policy objectives under the European Green Deal as well as the EU's international commitments on climate and sustainability objectives. To this end, the Commission has since 2018 been developing a comprehensive policy agenda on sustainable finance which aims to support the financing of the transition to a sustainable economy by proposing action in four number of areas: transition finance, inclusiveness, resilience and contribution of the financial system and global ambition (Comission, 2021).

### 3.1.3 International cooperation for EGD

As tackling climate change is an international effort towards a global threat, international cooperation is required to achieve sustaining results. According to the European Commission (2022b), the EU aims to do this through partnerships and green alliances with countries and regions which account for most of the world emissions, as well as with potential big emitters. Such countries and territories include: (1) the United States, with which the priorities align regarding the full energy policy spectrum; (2) Canada, which EU will continue to work with on the High-Level Energy Dialogue; (3) the Eastern and the Southern Neighbourhood, where the collaboration will focus on sustainable energy production, energy transition and decarbonisation; (4) Norway, Japan, Australia, Chile and the United Kingdom, where there will be a focus on the energy transition and other common priorities; (5) India, with which the EU-India Clean Energy and Climate Partnership has been adopted and there will be a specific focus on renewables and the decarbonisation of the countries' industry; (6) China, where the cooperation will focus on



emission trading systems, electricity systems, grid-modelling, financing of energy efficiency and business cooperation; (7) Africa, through the Africa – Europe Alliance; (8) Gulf countries, as per the Joint Communication on the Gulf 22, for further promoting the green energy transition; (9) Latin America and the Caribbean; (10) Asia and the Pacific, by focusing on the regions' potential on renewable energy productions. The EU also plans to continuously convene with the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD) and the World Bank.

These numerous collaborations will offer financial support, assistance, technology transfers, and/or enhanced trade relationships and will help the EU in prioritising energy saving and efficiency globally, as well as to further consolidate its current and future energy ties.

In the Western Balkans, the EU will support the Green Agenda and encourage reforms that make the region better align with the EU easing the accession process to the union. In the short-term WB countries are required to guarantee via political promise to carry an energy transition towards fossil-fuels independence, all the while providing a better integration and utilisation for renewable resources.

### 3.1.4 Recent Developments

While the developments of the EGD are a constant priority, since Russia's unprovoked war against Ukraine, the EGD implementation has proven even more vital to Europe. Considering Russia is Europe's largest gas supplier the REPowerEU Plan (European Commission, 2022a) was created to end Europe's dependence on Russia's gas and further the energy transition. The plan expects to cut the demand for Russian gas by substituting the demand for gas with renewables, low carbon energy sources, energy efficiency and reserves, whereas the remaining need for natural gas should be covered by varying suppliers from non-Russian sources: of liquefied natural gas (LNG) and pipeline gas. Being the world's largest oil exporter, Russia also created insecurity in the global oil market, which led to increased global prices not just in oil, but other sectors as well. This prompted the EU and the G7 group of energy ministers to examine using to the full the available spare capacity and increase deliveries in the global market. All imports of coal from Russia have also been stopped by the EU. This requires the replacement of 44 to 56 million tonnes of coal annually, largely by importing from elsewhere. Whereas in the long run, it is planned for coal to be phased out in most EU countries by 2030.

### 3.2. The Green Agenda for the Western Balkans

The "Green Agenda for the Western Balkans" provides a basis for a new growth strategy for the region, embedded in the EU Economic and Investment Plan for the Western Balkans, which aims at leaping from a traditional economic model towards a modern, climate neutral, resource-efficient and competitive economy in line with the European Green Deal (EGD).

After several years of dialogue between the Western Balkans' authorities and the EU, and four<sup>2</sup> Ministerial Declarations since early 2016, ***the Sofia Declaration on the Green Agenda for the Western Balkans*** signed on

<sup>2</sup> Four Ministerial Declarations (Referring to the Ministerial Declaration endorsed at Podgorica (2016), Bonn (2017), Skopje (2018) and Zagreb (2020) meetings convened by Regional Cooperation Council.) were endorsed between 2016 and 2020 in which the WB countries agreed on taking steps forward to mitigate the climate crisis, in line with the EU's climate-related ambitions and the Paris Agreement. Following this, a



November 10, 2020, in the WB Summit<sup>3</sup>, set the foundations for a clear path towards aligning WB policy efforts to the EU carbon neutrality goals (Sofia Declaration on the Green Agenda, 2020).

The same year, during the Berlin Process Summit in Poznań, the WB Leaders expressed their common willingness and readiness to meaningfully contribute to an ambitious Green Agenda. To these ends, leaders of the Western Balkans (WB), have worked for 2 years to incorporate elements of the EGD into all interrelated sectors and policies, based on the European Commission's Guidelines.

Following sections delve into the implications, challenges and progress done towards the implementation of the Green Agenda in the Western Balkans, as well as a break-down of its contents and complex ambitions.

### 3.2.1 Focus of the Green Agenda

Simply put, the Green Agenda is a comprehensive strategic roadmap against the expected climate crisis which builds upon five main<sup>4</sup> pillars: **(1) climate action**, including decarbonisation, energy and mobility, **(2) circular economy**, addressing in particular waste, recycling, sustainable production and efficient use of resources, **(3) biodiversity**, aiming to protect and restore the natural wealth of the region, **(4) depollution** of air, water and soil and **(5) sustainable agriculture**, including food systems and rural areas.

More thoroughly, the 5 pillars are broken down as following:

**A carbon neutral Region:** Aligning with the new EU Climate Law and the EU Emissions Trading Scheme, this pillar aims at reducing greenhouse gas emissions and enhancing resilience to the impact of climate change. Under this pillar, and in line with the EU Green deal, the Western Balkans are committed in reducing gas emission by 55% in 2030 and making use of carbon pricing mechanisms. The pillar envisages shifting towards cleaner and renewable energy sources while in the same time increasing rail capacity in deploying more environmentally friendly transport modes, and smart mobility solutions.

**Moving Towards Circular Economy:** Transitioning from linear economy to a fully circular economy is key to achieving a green transition. This entails developing strategies to improve the sustainability of raw material production, preventing, reducing, recycling, and managing waste by looking at the entire lifecycle of products. To enhance in this direction, the Green Agenda, demands developing regional agreement on the prevention of plastic pollution, in particular marine litter.

**Protecting Biodiversity and Ecosystems:** In terms of Biodiversity, the Green Agenda foresees the development and implementation of a Western Balkans 2030 Biodiversity Action Plan and a Forest Landscape Restoration Plan, with the aim of further protecting the wealth of habitats and species.

**Depolluting Air, Water and Soil:** Being home to some of the last pristine rivers of the continent, but lacking their protection, being the most air polluted region in the Europe and facing serious danger from soil degradation and

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joint statement was adopted in February 2019 in Podgorica on 'Clean Energy Transition' in which ministers of energy and of environment confirmed their willingness to align as swiftly as possible with the EU's energy, climate and environmental policies

<sup>3</sup> The Western Balkan Summit, is an annual event, under the framework of the Berlin Process Initiative, which brings together leaders from the six Western Balkans partners, the 27 EU member states, EU institutions and international financial organisations to tackle various topics affecting the region.

<sup>4</sup> Digitalisation will be a key enabler for the above five pillars in line with the concept of the dual green and digital transition. Source: European Commission, 2020. Guidelines for the Implementation of the Green Agenda for the Western Balkans.

[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)



erosion, Western Balkans foresee in the Green Agenda one and foremost the alignments with the EU standards related to all three abovementioned issues. In addition, modernising and intensifying air and water monitoring, investing in wastewater management and promoting water reuse in agriculture are some of the actions envisaged in the GA Action Plan.

Building sustainable agriculture and food systems: In addition to the deficiencies identified in the other pillars that also relate to the food sector particular attention should be paid to the specificity of this sector and to the rural areas in the Western Balkans. In this regard, the Action Plan proposes actions such as: i) development of sustainable rural areas; ii) Increasing food security and quality; iii) Reducing waste, improving compliance with EU food safety and animal welfare standards; iv) Promoting environmentally friendly and organic farming; etc.

### 3.2.2. The Green Agenda Action Plan and a promised support by EU

Western Balkan countries still fall behind the EU with regard to fighting, mitigating and adapting to climate change, lacking at the same time a holistic approach for transforming all relevant policies (national and regional) into climate-sensitive. In response, the European Commission proposed the Guidelines for the Implementation of the Green Agenda for the Western Balkans (2020)<sup>5</sup>. Additionally, in the WB Economic and Investment Plan 2021-2027 (EIP) the Commission proposed 10 investment flagships, aiming to spur the long-term recovery, accelerate a green and digital transition, and foster regional cooperation and convergence of the WB with the EU, through mobilising up to €20 billion in guarantees and another €9 billion through IPA III Funds (Bartlett, Bonomi, & Uvalic, 2022).

Continuing its effort towards the implementation of the Green Agenda, the WB developed the Action Plan for the Green Agenda 2021-2030, coordinated through an extensive process (embedding a bottom-up approach) led by Regional Cooperation Council. This Action Plan is a tool to guide the Green Agenda implementation, embodying the 'putting words into actions' paradigm by identifying concrete steps and supporting organisations, as well as defining an indicative timeframe for each implementable measure, to be then monitored annually.

While the action plan only outlines the framework for the Green Agenda coordination and monitoring, the main responsibility for the implementation lies with the Western Balkan governments and institutions, following inter-sectorial and inter-institutional cooperation. This includes also the mobilisation of funds for implementing the agenda. While IPA funding may be sufficient to kick-start action in key areas, substantial funding from other stakeholders, in particular international financial institutions, will be essential. **The European Investment Bank**<sup>6</sup> and **the Western Balkans Investment Framework (WBIF)**<sup>7</sup> might offer substantial financing opportunities for the WBF. Additionally, **The Green for Growth Fund (GGF)**<sup>8</sup>, structured as public private partnership, can continue to

<sup>5</sup> For the full document, see: [green\\_agenda\\_for\\_the\\_western\\_balkans\\_en.pdf\(europa.eu\)](https://ec.europa.eu/eip/wb/green-agenda-for-the-western-balkans_en.pdf)

<sup>6</sup> The European Investment Bank, now the EU's "climate bank", is one of the world's main financiers of climate action and environmental sustainability. In 2021, the share of EIB investments that went to climate action and environmental sustainability projects rose to €27.6 billion.

<sup>7</sup> The Western Balkans Investment Framework (WBIF) is a joint initiative of the EU, financial organisations, bilateral donors and beneficiaries, aimed at enhancing harmonisation and cooperation in investments for the socio-economic development of the region and contributing to the European perspective of the Western Balkans. Due to its collaborative nature in line with the 'Team Europe' approach, the WBIF is the main vehicle for implementation of the EU's ambitious Economic and Investment Plan for the Western Balkans.

<sup>8</sup> The Green for Growth Fund (GGF) is an impact investment fund that mitigates climate change and promotes sustainable economic growth, primarily by investing in measures that reduce energy consumption, resource use and CO<sub>2</sub> emissions. The GGF operates in 19 markets across Southeast Europe, including Turkey, the European Eastern Neighbourhoods Region, and the Middle East and North Africa.



finance green investments, while the **Regional Energy Efficiency Programme (REEP)**<sup>9</sup> can support the transposition and implementation of the EU energy efficiency *acquis* combined with financing to enterprises, households and public sector entities undertaking energy efficiency investments.

Lastly, for the implementation and achievements of successful results towards Just Green Transition (JGT), funding will also be crucial for related research and innovation. The region can benefit both from the **InnovFin Financial Instruments** under Horizon 2020 and Horizon Europe, as from **The European Innovation Council (EIC)**, being the most ambitious EU initiative for disruptive and breakthrough innovation and it fully includes the Western Balkans.

### 3.2.3 Green Agenda and challenges forward

The Western Balkans are an integral part of Europe, and the Green Agenda is the equivalent of the European Green Deal. As such, by adopting the Green Agenda, WBs will demonstrate their ability to contribute to Europe becoming the world's first climate-neutral continent.

Yet, though an important step was taken by leaders of the region signing the Sofia Declaration, reaching the abovementioned goals cannot be accomplished overnight, but it rather takes strong political will and enthusiasm by all stakeholders involved in the process, including driving agents and partners such as the Regional Cooperation Council, or distinguished NGOs and think tanks, that play a crucial role in pushing forward the Agenda's ambitions. Hence, in this regard all WB countries need to prepare at country level and strongly coordinate as a region while diving into the implementation of the Green Agenda for the WB.

Implementation of such an ambitious Agenda comes with implications to be faced at several layers including social, environmental, economic, financial, technological and even [geo]political. These multiple implications lead to several challenges, which broadly speaking (both at the regional and national level) are related to the lack of political commitment (Knez et al., 2022) to improve/transform policies and to the lack of financial resources for basic services or economic activities, regardless of the extra costs needed to foster or nourish innovation. Furthermore, there is also lack of or poor information and knowledge at societal level on the climate impacts and consequences of inaction around mitigation and adaptation.

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<sup>9</sup> The Regional Energy Efficiency Programme (REEP) is an integrated package of finance, technical assistance and policy dialogue developed and funded by the European Bank for Reconstruction and Development and the European Union and implemented jointly with the Energy Community Secretariat.



## 4. Methodology

This report is the first deliverable of the research activities within GreenFORCE, envisaged to respond to the specific objective mentioned at the beginning of this section. The current version, numbered 1.0 comes as the effort of the involved researchers to make the first attempt of conceptualising the just green transition in the Western Balkans.

To contribute to the establishment of this contextual knowledge, on a methodological approach, the GreenFORCE project consortium<sup>10</sup> has at first, undertaken a mapping process as a first attempt to inform on policies, actors and practices of JGT or related to JGT.

At the same time, the in-depth review of theoretical insights and state of the art nurtures a critical discussion on just green transitions in the Western Balkans region and, which together with the results of the testing of research instruments, shall enrich the v2.0 of Deliverable 4.1 also reviewed by the Research Advisory Board by spring 2023, as foreseen in the GreenFORCE plan of activities. The v2.0 of D4.1 shall be published next to v1.0.

Additionally, to contribute to the contextualisation of JGT, two co-design workshops conducted during November 2022, with the participation of a wide range of regional and local stakeholders from each of the WB countries. These two co-design processes aimed at bringing together to a common understanding and providing a discussion arena on the current state of art of JGT initiatives in JGT in the WBs. As some of the findings of the co-design workshops are provided in the discussion chapter of this document, a full report on the findings is provided as an Annex to this document.

After the submission of the report as a deliverable (D4.1), the researchers will initiate the research focusing initially on two steps: the further development of the theoretical concepts (already introduced in section 2) and the testing of the research instruments as provided in the following of this chapter. The continued in-depth theoretical review will cover not only the base theories of sustainability transition and justice in transition, but will also focus on theoretical insights that are particularly relevant to spatiality and placeness in the sectors that each case study represents.

### 4.1 Research Approach at Regional Level

The need for JGT research cases, as proposed below stems directly from one of the specific objectives of GreenFORCE, which focusses on generating knowledge through carrying out exploratory and comparative research on JGT processes, policies, costs and impacts, and their relation to the spatial and regional setting in the WB. Because there is a research gap on JGT, the selection of the cases was done through an exploratory process. The two co-design workshops that took place in November 2022 provided the main ground for identifying priorities for research as well as for validating the cases in Albania, North Macedonia and Serbia. Two more cases are as well selected, representing two out of the three remaining WB countries (Montenegro and Bosnia and Hercegovina), through an open call for proposals.

Though we employed the same methodologies in selecting cases as well as in conducting the mapping of policies, initiatives and stakeholders, the final result was heavily influenced by the processes in place in each country, the intimate knowledge of each project partner about their development and territorial context, as well as by a starting point close to zero in terms of any indicators for research on JGT.

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<sup>10</sup> The GreenFORCE project is carrying out a regional mapping of policies, initiatives and stakeholder of JGT in the Western Balkans.





Furthermore, as defined in the GreenFORCE Project Document, the cases were selected to ensure compliance with the following criteria:

- i) research sectors covering at least 3 components out of 3 pillars in the green agenda for the WB;
- ii) select territories and sectors based on the results of the co-design workshops and on the willingness of local stakeholders to share and participate in further co-assessment workshops;
- iii) select cases where the potential of territories and sectors/activities to initiate the transition is evident, data are or can become available and the feasibility to achieve a meaningful cost and benefit analysis (both objective and subjective) is present.

Upon the selection of cases (presented in detail below) we do not intend to achieve full comparison, rather than to identify common elements at the regional level, and list key aspects that could be used to formulate policy recommendations for each of the sectors addressed by the cases. Therefore, while there is no one unique research question for all of the cases, all of them respond in varying degrees and through different sectorial and country perspectives to the following questions which we identified based on the theoretical conceptualization.

- In what ways do/can place-specificity and spatial scale influence just transition processes in the Western Balkans? Place-specificity and spatial scales form the underlying conditions of JGT pathways and include socio-economic structures and the socio-economic and climate vulnerability, distribution of infrastructures and services, political processes and discourses, the effects of the post-socialism transition, the distribution of local and natural resources of the territory, smart specialisation potential of the regions, the level of development of JGT policies and processes, etc. We also hope to identify potential path dependencies affecting or risking to affect the JGT pathways.
- What potential implications and impacts (costs and benefits) will JGT pathways and/or scenarios impose to the Western Balkans societies and territories? Implications and impacts will be derived from a scenario-based analysis of the cases and the assessed for costs and benefits in a holistic way, hence including quantifiable and non-quantifiable impacts.
- While the sustainability transitions are supported or even pushed forward by the smart specialisation [potential] of regions, does the geographical proximity between diverse local and regional territories within the Western Balkans play a role for a joint progress in transition? This question is of policy relevance and it intends to contribute to the presumed JGT condition of partnership and agency. The cases will explore the potential social networks within the region and between local territories that play a role in the advancement of the JGT in each specific case?
- What is the role of territorial stakeholders in the advancement of JGT in the WB? We have argued that the JGT is not being initiated bottom-up in the WB, but that a successful achievement will however require for a whole-of-society involvement. In this way the justice dimension of the transition is ensured, while the risk for JGT to become the next teleological transition of the WB can be avoided or at least smoothen.
- At least one of the cases (Serbia) is a promise for a potential niche for innovation transition. The case of Albania is more premature in terms of implementation, but the scenario results could potentially lead to establishing grounds for nourishing innovation in the urban setting. Through these cases we hope to respond to the question on whether there are niches for innovation transition in the Western Balkans and if so, use. The findings to formulate sound policy recommendations for a bottom-up engagement of the society in JGT.



The research is an empirical effort in terms of observing the interrelation between just green transition and place specificity, with a particular focus in the Western Balkans as countries and as a region. The methods implied include case study approach combined with desk/literature review, and detailed methods of inquiry for each of the cases; scenario-development; observation; survey; cost and benefit analysis; territorial analysis conducted at the specific scale of each case. However, the case studies do not constitute necessarily niches rather than representative cases of regime dynamics imposed mostly top-down, hence from the governments or higher inter-governmental policies. Even in the case of Serbia and Albania, where the case studies are about the potential effects of JGT at city and neighbourhood level, the transitions employed are proposed within a broader urban development and resilience policy for decarbonisation and depollution.

In this way, we hope not only to bring salient answers on the potential future impacts of green transitions in the Western Balkans societies, but also shed light in the regime-landscape interaction and how such an interaction can vary depending on its spatiality. Space-wise, our departure point is that of the territory as a geographically determined and relational construct (Lefebvre, 1974/2003; Gottman, 1975; Harvey, 1993; Massey, 1993; Delaney, 2005; Raffestin, 2012; Keating, 2013, Hansen and Coenen, 2015), emphasising both the social co-production and the multiple, overlaying and fuzzy boundaries or resources (natural and man-made) in it.

Furthermore, for each case study, we will also explore further the state of the art in terms of technological advancements and policies related to these advancements.

#### 4.2 Ethical Concerns and Implications

The implementation of the research activities will be conducted in accordance with the Data Management Plan as well as the ethical principles and guidelines adopted by GreenFORCE.

Each of the research case will follow the guidelines regarding subject's data confidentiality, integrity and availability as prescribed within Green Force contract and will also ensure that all 3rd parties involved in the project implementation are equally compliant regarding their technical, organisational and legal measures against any potential data breach. When primary data and information will be gathered through interviews, surveys and/or focus group discussions, the participants will be participating on a voluntary basis and will be free to opt in or -out at any time. The participants will be informed with consent to participate in the activities by being provided with information on the purpose, benefits, any risks and funding of the research and the research output before they agree to participate in the activities. The participants will be guaranteed anonymity when this is necessary and required, and personal data will not be collected unless necessary (for example for reporting purposes).

The information provided by the participants will be confidential and anonymized when and as needed. Data will be stored in accordance with the Data management plan and used solely for the purposes of the project solely.

### 5. Towards assessing the impacts of JGT in the Western Balkans – A Case Study Approach

With a JGT process progressing at a very slow pace in the region, little is done in regard to societal preparedness for JGT. There are no studies on the impact of the limited JGT practices so far, and to date, no ex-ante assessment on the effects of future interventions is undertaken. The current policies, though at an embryonically phase in regard to endorsing green transition dimensions and instruments, would benefit immensely from impact assessments that shed light on the region's contextual factors relevant to the implementation of JGTs and the expected outcomes.



We support a multilevel perspective of the transition management, which is spatial and informed by the territory, and which intends to engage the transition actors into iterative cycles of knowledge- and decision-making. The JGT agenda has set policy objectives for the Western Balkan countries, which form the long-term objective of the respective sustainability transition. To achieve these long-term objectives, the countries and the societies should first set a path of interim objectives (Rotmans et al., 2001) and actions to achieve them.

Because the impacts of the transition remain unknown, we propose that governments should take steps in creating knowledge about these expected impacts as a way to correct actions in dynamic, but also and most fundamentally, to prepare the society for the transition. Through a combined forecasting - back casting method, various actions of innovation or policymaking that facilitates the transitions are assessed prior to being implemented, along with implementation or right after it. Because the transitions are gradual processes of change (Rotmans et al., 2001), this path of iterative cycles of learning, doing, evaluating, learning and doing again should facilitate the just green transition achieve its end result.

Following on the methodological approach and tools briefly explained in Chapter 4 of this document, a thorough overview on each individual case study is presented in the subsequent chapters.

## 5.1. Net-Zero transition for Post-Communist Urban Neighbourhoods in, Albania

### 5.1.1. Introduction

Since November 10, 2020, through the Berlin Process, Albania officially acknowledges the European Green Deal as the new growth strategy towards a modern, climate neutral, resource efficient economy (European Commission, 2019). Furthermore, the joint declaration of Western Balkans leaders in Sofia provides a set of commitments and a detailed action plan for all Western Balkan (WB) Countries, building on the following five pillars; a) Climate, energy, mobility; b) Circular Economy; c) Depollution; d) Sustainable agriculture and food production; e) Biodiversity.

Browsing natural and climate events from the last decade in Albania, it is possible to consider as highly credible both, the observed effects of climate change in the WB and Mediterranean basin and the projected ones by the sixth assessment report of IPPCC<sup>11</sup>. Also, most regional scholars indicate that WB is a region where the impacts of climate change are probably the major threat to its vulnerable economies given the exposure and low resilience. Being a region where annual emissions per capita are more than half of the emissions from EU countries and slightly more than a quarter compared to the States (Knez, 2022), poses the risk of under-commitment and slow transitioning towards climate neutrality, including unequal distribution of transition impacts. Under these conditions, it is necessary for the WB to gradually but steadily embrace the Green Transition as it offers a possibility to increase the region resilience, while also enabling numerous participatory processes to guarantee a transition that is just for all communities.

The research focusses on the Climate, Energy and Depollution pillars of the WB Green Transition Agenda. More specifically, it addresses through a combination of research instruments in the urban setting, the socio-economic benefits and implications of transiting toward “net-zero-emission building” (NZEB). The targeted communities are those living in prefabricated apartment buildings in residential blocks, constructed massively across Eastern Europe during 60’-80’. It is estimated that only in Tirana with a population of approximately 800,000 inhabitants, 6% of its

<sup>11</sup> [https://www.ipcc.ch/report/ar6/wg1/downloads/factsheets/IPCC\\_AR6\\_WGI\\_Regional\\_Fact\\_Sheet\\_Europe.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/factsheets/IPCC_AR6_WGI_Regional_Fact_Sheet_Europe.pdf)



population is accommodated in these blocks. The other Albanian cities, depending on the speed of urban transformation, may have higher shares of their local population living in these conditions.

NZEB stands for a building that has a very high energy performance, while the nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including that produced on-site or nearby. "The Energy Performance of Buildings Directive<sup>12</sup>" requires initially to develop long-term renovation strategies aiming to facilitate the cost-effective transformation of existing buildings into nearly zero-energy buildings. Particularly after the earthquake of November 2019<sup>13</sup> there has been a long-lasting debate in Tirana about preservation through renovation or demolition and reconceptualization of Tirana's prefabricated residential neighborhoods (building using a Large Panel system). While this research will stimulate more food for thought regarding environmental and socio-economic implication of transforming the prefabricated building stock into zero-emission buildings by 2050, it should also contribute to the debate of preservation vis-à-vis demolition and construction of new blocks.

However, transiting to zero emission buildings and therefore also neighborhoods, while beneficial for the society, it does come with high-costs, especially for the short-term period. Both, renovation and demolition and construction come with considerable investment that should guarantee high energy performance in the short and long run.

In this research, we start from the assumption that demolition and construction of new buildings will have implications of feasibility in a longer term compared to a gradual approach of transitioning through renovation. Furthermore, as Tirana is currently experiencing a construction boom in terms of new developments on vacant land or land currently occupied by low-rise detached houses, with very high market costs of land and construction and very high prices of new properties, it is unfeasible for the short-to-medium term to have new developments taking place on land occupied by apartment buildings. Given these conditions, and the necessity to embark on green transitions sooner rather than later and through various means and forms of innovation, reflecting local and territorial specificities, we have built our research based on renovation scenarios.

By renovation we understand improvements made to the buildings as well as potential interventions aiming to harvest solar energy and rainwater through rooftop systems. Tirana represents an interesting case study with regard to the potential of decreasing energy and water consumption for households' units as provided by the national and local operators. This is given the fact that on an annual basis the solar irradiation<sup>14</sup> is 4,55kWh/m<sup>2</sup> along with 2526 hours or 250-260 sunny days per year. On the other hand, the average yearly rainfall<sup>15</sup> varies from 1,250-1,455mm per year. Solar harvesting is considered to affect significantly the water-dependent energy sector in Albania, whilst the latter will obviously contribute to reducing usage of drinkable water for sanitary purposes, as well as mitigate urban heat and urban draughts during the summer period.

NZEB entails specific interventions of nature-based solutions, which necessitate funding as well as a societal understanding, acclimatization and acceptance. As a result, if such a transition is not well-understood and strategically planned for implementation, it may lead to the failure of the very objectives of green transition, being fair and just and inclusive.

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<sup>12</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02010L0031-20181224&from=EN>

<sup>13</sup> <https://www.kryeministria.al/en/newsroom/kombinat-nis-prishja-e-pallateve-te-demtuar-nga-termeti/>

<sup>14</sup> <http://www.akbn.gov.al/energija-diellore/>

<sup>15</sup> <https://www.geo.edu.al/newweb/?fq=brenda&kid=28>



The main objective of the research is to identify and assess ex-ante the 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, Albania. The research employs a non-probabilistic sampling technique – the purposive sampling, for the selection of the cases to be included in the research project. While the findings obtained through the purposive sample are not statistically representative of the greater population of interest (the total stock of pre-fabricated residential buildings), they are qualitatively generalizable.

A neighborhood of 1-2 ha comprised of 5-10 five-stories buildings of prefabricated concrete panels and with approximately 175-200 apartments, constitutes one of the main typologies of residential blocks built in Albania prior 1990. It holds a residential mixture predominated by elderly followed then by consolidated families and few youngsters mostly as rentals that represents all of the urban population layers in Tirana, therefore making it a sound choice from a social-economic profile perspective. Three such neighborhoods are selected for the research, representing various locations within the urban fabric, in order to capture the best residential mix possible.

The results of the research in these neighborhoods may be used to draw conclusions at a larger scale for that part of Tirana which was urbanized between 1955-1985, and that actually represents at least 1/3 of the residents in the capital as well as the co-called central area of Tirana.

### 5.1.2. Scenario Development

Conceptualizing just and inclusive Green Transition (JGT) for prefabricated urban neighbourhoods towards o-emissions by 2050 requires a holistic approach when determining benefits and implications, which can further serve as evidence-based information for communities and stakeholders during participatory decision-making processes. 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.

The first scenario (Scenario 1 – S1) presented in table 1, is projected to focus initially on **technical** interventions on the selected study areas. We will assess initially the current energy performance and afterwards identify and assess the implications of a full renovation required to achieve net-zero objectives in the prefabricated buildings.

The second scenario (Scenario 2 – S2), further encompasses the technical intervention that aims towards substitution of energy production with RES/PV and harvesting of rain-water for sanitary and management purposes as NBS. For S2 we identify and assess the implications of what could be considered as a full Climate Neutral Neighbourhood including NBS systems that contribute directly to reduce the overall footprint of the neighbourhood on environment, energy sector, water management and air pollution.

Both scenarios (S1 & S2) shall include just transition principles from two key perspectives: a) socio-economic and environmental effects b) informed and participatory decision-making processes. These scenarios will be compared with a baseline scenario (Scenario 0- So) which consist on delaying transition and maintaining the status-quo,



entailing no specific actions until the year 2030 as per the indicators of the Action Plan<sup>16</sup> under the decarbonization chapter (specifically indicators nr.6, 8, 9, 10, 11, 12, 13 and 16). In this baseline scenario the assumption is made that no action arising from communities, local and central government shall take place. Therefore, the socio-economic and environmental effects will be assessed taking into consideration the footprint of these neighbourhoods on energy consumption, water and pollution *vis-à-vis* the projected increase of energy prices and related public services in the local economy. The time-limit for this assessment is the year 2030.

The territorial scope for a full assessment of the scenarios' (S<sub>0</sub>, S<sub>1</sub>&S<sub>2</sub>) implications will be limited study area situated in Tirana Municipality, Administrative Unit Nr. 7, nearby 21-December cross-road (study area no.1 in figure 1). The time scope of the scenarios is up to 8 years for S<sub>0</sub> given the indicative objective by 2030 whilst for S<sub>1</sub> and S<sub>2</sub> up to 27 years since we are referring to the overall objective of Climate Neutrality by 2050.

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<sup>16</sup> Action Plan for the implementation of Sofia Declaration on the Green Agenda for Western Balkans 2021-2030 by RCC, date 4<sup>th</sup> Oct. 2021



Table 1. Presentation of the scenarios, case of Albania

	<i>Scenario 0 – Delayed Transition towards Climate Neutrality for Prefabricated Buildings in Tirana</i>	<i>Scenario 1 – Enhance Energy Performance of Prefabricated Buildings in Tirana</i>	<i>Scenario 2 – Harvesting Renewables and Rainwater through PV and Nature Based Solutions for Climate Neutral Neighbourhood</i>
<b>Description of the transition scenario</b>	No action on addressing reduction targets for household and public services energy efficiency and consumption.	Initial assessment of energy performance and further design proposals for a complete renovation required to align energy consumption indicators of prefabricated buildings with class A energy performance.	S1 + substitution of energy production with RES / PV and harvesting of rain-water for sanitary and management purposes required to achieve net-zero objectives of the prefabricated buildings.
<b>Underlying assumptions</b>	There are no local policies and support measures for transition in the next 7 years. Increased energy price combined with building and appliances amortization leading to energy poverty. No strategic measures to tackle JGT will take place until the demolition option is presented (considering the lack of information and strategic support) or taken on board by the private sector (developers)	Community representatives, stakeholders and local/national authorities are open on: <ul style="list-style-type: none"> <li>- Sharing sensitive information with regard to their socio-economic data</li> <li>- Sharing information upon household energy consumption and list of appliances.</li> <li>- Co-projecting and participate for JGT at a community level.</li> </ul> Existing support scheme applied by Municipality of Tirana and Energy Efficiency Agency are prone to further alignment with NZEB as per the EU Directive on EE. Legal and regulatory aspects, strategic documents are aligned and in compliance with the Energy Community (EnC) acquis.	<i>Note: Underling assumptions of S1 are all applicable to S2. The following assumptions are only applicable for S2</i> Local and Central agencies supporting community initiatives leading to auto-supply with what previously were public services. Besides the foreseen investments, there are co-financing and co-ownership modalities between community and local authorities. Legal and regulatory aspects and strategic documents are aligned and in compliance with the Energy Community (EnC) acquis. Regulatory framework and support of relevant public institutions for new investments in RES for auto consumption is in place.
<b>Limitations</b>	<ul style="list-style-type: none"> <li>• Limited territorial scale – the scenario analysis covers only a small territory of 1,2ha comprising 11 prefabricated buildings;</li> <li>• Limited ability to fully address the risks associated with the transition scenarios – though we will try to highlight them;</li> <li>• Limited local buy-in of reforms and processes, particularly for those of a technical nature, such as climate neutrality combined with low attention on just transition policies.</li> <li>• Limited to the existing knowledge and technologies as per the reference date of this document.</li> </ul>		



### 5.1.3 The objective and methodology of research

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 main research question deriving from this objective is: What are the socio-economic and environmental expected benefits and costs of just transition to zero-emission buildings in the neighborhoods of pre-fabricated residential buildings (apartments, concrete pre-fabricated, built during 1970-1985) in Tirana, Albania?

Because this is an ex-ante assessment, we will try to identify expected impacts and implications and classify them into costs and benefits for the implied stakeholders – the residents and the involved institutions, as well as the society in general. These costs and benefits may be social, economic, and environmental and not all of them may be quantifiable. For instance, we may identify costs or benefits related to the quality of life, such as personal health and safety, or life flourishing (Sessa et al., 2020). Regardless of the typology of costs and benefits, we will list all of them and analyze them qualitatively or quantitatively, depending on the availability of information and the feasibility of unravelling them into more objective components. Furthermore, a typical cost-benefit analysis (CBA) will also be used, for those impacts and implications that are both quantifiable and monetizable. Most importantly, the expected impacts and implications shall be listed and assessed for two potential future scenarios of transition (as explained above) and the results shall be compared to the status quo scenario. In order to define the features of the status-quo scenario we will make field observations (of energy performance parameters) in the three selected neighborhoods and employ a socio-economic survey with the residents to define their starting point for engagement and acceptance of the transitions. The findings of the assessment should feed in [policy] recommendations for institutions and the society at large on how to engage into just and inclusive green transitions at the urban scale, more precisely for the transformation of urban residential neighborhoods. We expect the findings to provide insights on the spatial dimension of JGT at the city scale.

Table 2. Research Approach in Albania

	<i>Scenario 0 – Delayed Transition towards Climate Neutrality for Prefabricated Buildings in Tirana</i>	<i>Scenario 1 – Enhance Energy Performance of Prefabricated Buildings in Tirana</i>	<i>Scenario 1+2 – Harvesting Renewables and Rainwater through PV and Nature Based Solutions for Climate Neutral Neighbourhood</i>
<b>Overall research objective</b>	The overall objective of the research is to contribute to preparedness of institutions and society in Albania on the implications and impacts of decarbonization for climate neutrality in the perspective of Just Transition. 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.		
<b>Main research question</b>	What are the socio-economic and environmental expected benefits and costs of just transition to zero-emission buildings in the neighborhoods of pre-fabricated residential buildings (apartments, concrete pre-fabricated, built during 1970-1985) in Tirana, Albania?		





<b>Sub-questions</b>	<ul style="list-style-type: none"> <li>• What are the economic, social and environmental impacts and implications (expressed as costs and benefits) of transitioning towards a climate neutral household unit only through EE measures?</li> <li>• What are the economic social and environmental impacts and implications of transitioning towards a climate neutral house through combined EE, Nature based Solutions (NbS) and RES deployment measures?</li> <li>• What are the economic impacts and implications of transitioning towards a climate neutral house based on a delayed scenario (measures being taken after 2030)?</li> <li>• To what extent are policies, laws, strategies, plans aligned with EU policies in the field of Energy Efficiency, Climate Neutrality, RES for Self-Consumption?</li> <li>• In what way will EE, RES, NbS contribute to the socio-economic status of the study area's inhabitants?</li> <li>• What lessons and recommendations can be drawn from the findings and assessment of impacts and implications of expected JGT in the study area for Albania and Western Balkans cities?</li> </ul>
<b>Indicative Activities</b>	<ul style="list-style-type: none"> <li>• Screening of national and local legal and policy framework alignment with Energy Efficiency, Energy Poverty, Urban Air, Climate Change and Renewables in the context of just transition policies of Albania.</li> <li>• Conduct monitoring practice for PM, NO<sub>2</sub>, CO<sub>2</sub> pollutant concentration for at least 7 stations across selected study area, defining the baseline status of air pollution for 12 months.</li> <li>• Conduct a complete energy audit process in line with national practice approved by Energy Efficiency Agency for at least 5 households within study area determining the baseline energy performance class – to be conducted after the socio-economic survey which will set the basis for the selection of these households.</li> <li>• Design of Energy Efficiency renovation investments scenario to increase the energy performance of the selected dwellings up to Class A performance.</li> <li>• Conduct dedicated semi-structured interviews with policy/institutional stakeholders on the potential processes of NZEB in the urban area and related cost</li> <li>• Conduct a household survey with at least 75% of households in the selected area.</li> <li>• Design rooftop PV systems (scenario) for self-consumption purposes, interchange with transmission network.</li> <li>• Design rooftop rain-water harvesting systems (scenario) for sanitary self-consumption purposes and neighbourhood sanitation and watering purposes.</li> <li>• Identify impacts and implications listed as social, economic and environmental costs and benefits and conduct a qualitative assessment.</li> <li>• Conduct a cost-benefit analysis (quantitative and qualitative) to determine impacts and implications of the foreseen transition scenarios and provide recommendations to further stimulate co-financing and co-ownership modalities between community and local authorities.</li> <li>• Draft the case research report as direct input for Deliverables D4.5, D4.6, D4.7.</li> </ul>
<b>Research methodology, instruments</b>	<ul style="list-style-type: none"> <li>• <u>Desk research for theoretical review and discussion</u>: NZEB; Policies such as Climate Neutrality, Just Sustainable Transition, Depollution, Green Agenda; etc.; including lessons learnt from similar cases in the EU countries; etc.</li> <li>• <u>Desk research for policy documents and initiatives</u>: policies, initiatives, legislation, strategies, plans and as-builds, digitalization of all urban form and infrastructure elements, etc.</li> <li>• <u>Site specific field-work</u> – observation of the residential building stock for its physical properties and relationship to the urban form and landscape in the neighbourhood, specific measurements on energy efficiency, microclimate, solar irradiance, air pollution, energy consumption patterns and supply infrastructure, rainwater management, greenery and ecosystem services.</li> <li>• <u>Consultation with as-build layouts and blueprints</u> of the selected buildings, sourcing from the national technical archive.</li> <li>• Conducting <u>Energy Audit</u> for at least 5 different household units based the number of inhabitants, social status, apartment typology and positioning.</li> <li>• <u>Monitoring of air quality, noise pollution and existing ecosystem services</u> alongside with assessment of Public Service Status (Public Lighting, Waste Management, Water Supply and Waste Water etc)</li> </ul>



	<ul style="list-style-type: none"> <li>• <u>Household socio-economic survey</u>: sample-based questionnaires. The questionnaires to be developed and tested after the submission of D4.1 version 1.0.</li> <li>• <u>Semi-structured interviews</u> with policy/institutional stakeholders on the potential processes of NZEB in the urban area and related cost.</li> <li>• <u>Cost-Benefit Analysis</u>: the intention is to carry out as holistic CBA after having identified all impacts and implications. For this reason, the CBA will carry quantitative and qualitative analyses, depending on the impacts and implications being assessed.</li> <li>• Scenario development for NZEB in the neighborhood.</li> </ul>
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### 5.1.3.1. CBA analysis approach

The environmental and social cost-benefit analysis (ES-CBA) is the instrument employed for the assessment of the proposed scenarios towards NZEB. The ES-CBA is an extension of the conventional economic cost-benefit analysis of EU Commission<sup>17</sup> adjusted to consider the full spectrum of costs and benefits, including social and environmental effects borne by community due to the proposed interventions as outlined in OECD (2018).

The ES-CBA will provide a comparison of various indicators before (counterfactual or business as usual scenario –Scenario 0) and after project implementation (economic, environmental and social) to highlight the “net change or impact” attributable to the intervention proposed (Scenario 1, Scenario 1+2). The first step of the analysis requires the identification of all economic, social and environmental impacts (costs and benefits) through stakeholder, desk-based or a combination of both methods, in all proposed scenarios. In a second step, quantifiable costs and benefits will be monetized and estimated over the indicated lifetime. In the case of costs and/or benefits that cannot be quantified and/or monetized, a detailed qualitative description of them will be provided. In a third step, the data on costs and benefits will be collated into an excel model, accounting for the time when costs are borne and benefits harvested (accrued). The results will give the economic performance indicators such as the net present value (NPV), the internal rate of return (IRR) and the benefits to costs ratio (BCR). Both economic indicators and qualitative considerations will be used to provide a complete picture of the transition towards NZEB in the selected area.

<sup>17</sup> Jaspers Team & European Commission - Directorate-General for Regional and Urban Policy, (2021). *Economic Appraisal Vademecum 2021-2027*, Publications Office. doi:10.2776/182302

European Commission, Directorate-General for Regional and Urban Policy, (2015). *Guide to Cost-Benefit Analysis of Investment Projects: Economic Appraisal Tool for Cohesion Policy 2014-2020*, Publications Office. <https://data.europa.eu/doi/10.2769/97516>



Figure 1. Study Area no.1 - Administrative Unit No.7 / K. Lushnjës &amp; Y. Bylykbashi Street, Tirana, Albania

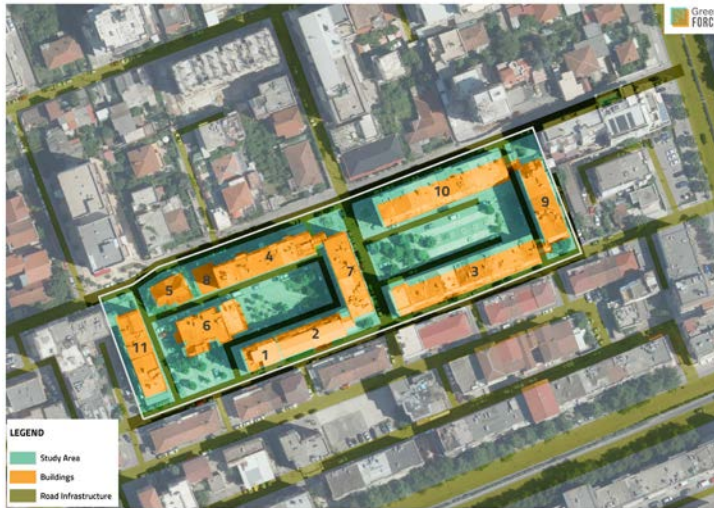


Table 3. Preliminary information from the proposed research location of study area no.1

Area "21-December"	Area Surface	Area Perimeter	No. of buildings
	<b>11,941 m2</b>	<b>521</b>	<b>11</b>
Building	Building footprint	No. of floors	Total Surface
1	161	6	970
2	350	6	2,101
3	765	6	4,595
4	491	6	2,948
5	173	3	519
6	450	3	1,351
7	395	6	2,373
8	112	1	112
9	382	6	2,295
10	634	6	3,807
11	392	6	2,356



Figure 2. Study Area no.2 - Tirana e Re, Tirana, Albania



Table 4. Preliminary information for the study area no. 2

Area 2 "Tirana Re"	Area Surface	Area Perimeter	No. of buildings
	10,703 m2	812 m	7
Building	Building footprint	No. of floors	Total Floor Area
1	373	5	1,866
2	1,013	5	5,068
3	665	5	3,327
4	332	5	1,660
5	39	1	39
6	2,056	5	5,282
7	323	5	1,616

Figure 3. Study Area no. 3 – Alidem, Tirana, Albania



Table 5. Preliminary information on the study area no.3

Area 3: "Alidem"	Area Surface	Area Perimeter	No. of buildings
	13,687 m <sup>2</sup>	815 m	9
Building	Building footprint	No. of floors	Total Surface
1	113	5	457
2	190	5	839
3	113	5	468
4	211	5	957
5	50	8	146
6	111	5	459
7	151	5	641
8	138	6	559
9	127	3	513

Stakeholders:

- Municipality of Tirana
- Energy Efficiency Agency
- National Agency of Territorial Planning
- Ministry of Tourism and Environment
- Ministry of Infrastructure and Energy
- Community of Tirana

The results of the research should contribute to:

- Informing decision makers, academia, stakeholders and communities on impacts and implications from transiting to Climate Neutrality.
- Practical scenarios where the principle of just, fair and inclusive transition is applied, indicating its impacts and overall costs, and the desirable societal involvement.

## 5.2 Assessing local economic and employment impact of JGT, Bosnia and Herzegovina

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 BiH 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 BiH (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.
- Interviews with a sample of 8-10 mines and/or power plants and their subcontractors will be conducted.



### 5.3 Waste management sector transformation and its impact towards JGT, Montenegro

**Important Note:** This case study is not yet developed in terms of content as the other three case studies in Albania, Serbia and North Macedonia. The cases are and will be further developed by a local expertise-subcontracted by the GreenFORCE project. The local expertise was selected through a rigorous open/call and selection procedure.

#### 5.3.1 General context/introduction

In Montenegro, moving towards circular economy in the area of waste management is quite new topic. Waste management is one of the most visible ecological issues in the country. Around 1% waste is being recycled while most of the waste is being disposed in sanitary landfills and/or in illegal/temporary landfills all over the country. In the terms of just transition and circular economy, activities are in the initial phase with very limited results for now. Strategy for circular economy and Road map were recently adopted. However, Law on waste management is in its adoption phase in last 5 years. Therefore, consultant will support the work of Co Plan to assess just transition impact and costs in the territory of Montenegro aiming to analyze how waste management sector is transforming to contribute to just green transition for climate change adaptation and mitigation. Consultant will assess the impact of the change related to the pillar circular economy in the area of waste management in the social, its economic and environmental aspects in short and long term.

#### 5.3.2. Scenario development:

Consultant will assess current situation on waste management in the terms of circular economy, having in mind its social context and its potential for employment of the people. This will be done with the special focus on new Law on waste management. It should transpose EU acquis in the area of waste management including Extended producers' responsibility and DRS system, but it is in the process since 2017. Public debate for this law was implemented in August 2018 and since then there is no move forward in the terms of its adoption nor implementation. Consultant will assess adoption/failure to adopt this law in the terms of circular economy and its contribution to green transition in Montenegro.

#### Objective and methodology:

In order to fulfil the requirements from the Terms of reference, consultant will use the following methodology and work on following activities:

***Activity 1. Desk research on policies, strategies, and initiatives with special focus on waste management in the terms of circular economy***

Consultant will implement desk research on the available information on the draft new Law on waste management, existing Law on waste management, National Strategy on Waste Management, Municipal action plans on waste management including sectorial policies, strategies, spatial plan, development policies including Waste Management Chapter as a part of EU accession process in order to prepare wider picture of the situation in the country. Special focus will be placed on the situation with the new Law on waste management, its constant delay in adoption and role in the just transition process.

*Preliminary list of relevant policies, documents, strategies:*

- National strategy on waste management
- Municipal Waste Management Plans



- Strategy on Circular Economy
- EU country reports 2019, 2020, 2021 – Chapter Waste Management;

### **Activity 2. Mapping of stakeholders**

Mapping of stakeholders will be done based on the previous experience and include all relevant governmental and local institutions and companies, local, national, and regional NGOs, including international. Their role in the process will be assessed and addressed based on the inputs and mapping frame provided by Co-PLAN as envisaged with the Terms of reference. Information will be collected and standardized. The focus will be on Montenegro territory, but will include relevant stakeholders abroad.

#### *Preliminary list of stakeholders:*

- Ministry of ecology, spatial planning and urbanism
- EcoFund
- Environmental Protection Agency
- NGO Zero Waste Montenegro
- NGO Zero Waste Europe
- GIZ
- Municipal Communal Utility Companies
- Recycling centres

### **Activity 3. Site visit and interviews**

Besides desk research related to the activity 1 and activity 2, consultant will implement site visits and interviews with relevant stakeholders previously mapped in order to add more relevant information for the assessment.

## **5.4 Implications of Transition in the Energy Sector at the Regional Level, North Macedonia**

**Important Note:** This case study is not yet developed in terms of content as the other three case studies in Albania, Serbia and North Macedonia. The cases are and will be further developed by a local expertise-subcontracted by the GreenFORCE project. The local expertise was selected through a rigorous open/call and selection procedure.

### **5.4.1 Introduction**

The passage towards a climate-neutral economy requires both the policymakers and implementers to consider core and comprehensive dimensions of a just transition where 'no one is left behind'. The Western Balkan (WB) countries, all aspiring toward the European Union (EU) accession, have undertaken an 'obligation' to move towards the alignment with the EU *acquis*, including the policies regarding taking climate action and thus energy transition. In line with the EU's ambition to become climate-neutral by 2050, the WB region committed to achieving carbon neutrality by 2050, and to aligning with the European Green Deal's key elements by endorsing the Green Agenda for the Western Balkan (GAWB).

The research case of CEA within the auspices of GreenFORCE will focus on the first pillar of the Green Agenda for the WB, the pillar of climate action - decarbonization, especially on the aspect of just transition in the energy sector. The pillar of climate action is quite comprehensive and it covers decarbonization, energy and



mobility, focusing on the energy sector and specifically deep dive onto the aspect of just transition as stated in the GAWB: “transition to climate-neutrality must be socially just and inclusive in order to be a success.”

One of the directly and especially affected sectors for North Macedonia, is the energy production. The electricity production mix in the Republic of North Macedonia (RNM) is highly coal-dependent, as over two-thirds of the primary fuel mix is based on solid fossil fuels. The exploited forms of energy in RNM are coal (lignite with a low calorific value from the category of young lignite), firewood and wood waste, hydro potential, solar, wind and geothermal energy.

The energy production in RNM indicates a gradual dependency decrease on coal-based production, however, the contribution of lignite (coal-based) is still contributing to 70% of the domestic production. Furthermore, the energy production in RNM notes a significant decrease in domestic production (from 6.744 GWh in 2010 to 5.284 GWh in 2021)<sup>18</sup>, mainly due to a 50% decreased production by the state-owned largest producer (AD ESM Skopje)<sup>19</sup> in both, hydropower and thermal power. The production of electricity by hydropower plants is significant (11%) but dependable on meteorological conditions. The electricity production by thermal power plants also records a downfall.

The reasons for the overall decline in thermal power plant production is primarily due to the effects caused by the obsolescence of the thermal power plants, which are already way past their expected life, thus followed by operation disruption, exacerbated by the low-quality coal, inadequate investments, low efficiency, etc.

Nevertheless, the production of electricity by the coal-fuelled TPP Oslomej<sup>20</sup> has increased significantly (twice more in 2019 compared to 2013),, although, in the past years, TPP Oslomej has had low electricity production due to the depletion of the nearby exploited coal reserves and the increased production is fuelled by externally procured (imported) coal<sup>21</sup> (ERC 2021 Annual Report). Having said that, the thermal plant energy production in 2021 contributed with 39% to the total domestic production with a significantly larger contribution from TPP Bitola (35%), and TPP Oslomej the remaining 4%. Important to note that besides the plans for gradual closure of the latter, the current energy crisis in Europe, resulted in policy degradation towards the opposite decisions for increasing energy production in 2022 from fuel-based sources.

The national law on energy and the long-term national strategy<sup>22</sup> (Ministry of Economy of RNM, 2019) concerning TPP Oslomej envisaged scenarios for decommissioning this plant, initially planned to happen in 2021, and for the country to be fully coal-free in 2027. However, the plan did not effectuate by 2021. On the contrary, TPP Oslomej has been reactivated to provide a larger contribution to the domestic energy supply, and even exacerbated by announcements of plans for reopening new nearby coal mines. In January 2022, the coal phase-out of the TPPs was delayed until 2030 due to concerns over (current) energy security<sup>23</sup> crisis which is contrary to all the commitments and plans undertaken by North Macedonia towards climate neutrality.

In the same policy vein, the long-awaited and still pending climate law is not adopted and enacted yet, remaining in a process of preparation for several years. The climate law will aim to regulate the framework for climate action for reducing greenhouse gas emissions (GHG emissions) and adaptation to climate change, including strategy planning, monitoring and reporting, and international agreement ratification.

<sup>18</sup> from 6.744 GWh in 2010 to 5.284 GWh in 2021),

<sup>19</sup> AD ESM Skopje, State-owned largest electricity producer in RNM

<sup>20</sup> twice more than the average electricity production in 2013 to 2019

<sup>21</sup> Annual Report on operations of the ERC in 2021, available at [www.erc.org.mk](http://www.erc.org.mk)

<sup>22</sup> [https://economy.gov.mk/Upload/Documents/Energy%20Development%20Strategy\\_FINAL%20DRAFT%20-%20For%20public%20consultations\\_ENG\\_29.10.2019\(3\).pdf](https://economy.gov.mk/Upload/Documents/Energy%20Development%20Strategy_FINAL%20DRAFT%20-%20For%20public%20consultations_ENG_29.10.2019(3).pdf)

<sup>23</sup> [https://www.gem.wiki/Oslomej\\_power\\_station#cite\\_note-Reuters-7](https://www.gem.wiki/Oslomej_power_station#cite_note-Reuters-7)





The long-term strategy on climate action (Ministry for Environment and spatial planning of RNM, 2021)<sup>24</sup> has however been prepared and recently adopted<sup>25</sup> together with an action plan. The strategy reiterates the commitment to decommissioning TPP Oslomej (by 2025), the strategy notes the social effects (laying off) for around 1000 employees for the case in question, furthermore noting the identification of the green transition challenges and just transition plan development need<sup>26</sup>.

The current overview of the policies that are concerning the issue of decarbonization in North Macedonia are on a national level solely, and strive towards alignment with the EU acquis, however, any regional or local policies are constrained and not taken on a subnational level, yet.

#### 5.4.2 Scenario development

The scenario to be developed and its effects researched via the GreenFORCE project will focus on the Decommissioning with JGT actions (from now on Scenario 1 – S1). The case will assess the implications of the decommissioning of the TPP Oslomej, with closure and decommissioning processes accompanied and followed by an adequate programme for the transition of the direct labour force and its implications on the local/regional economy.

Another variant of the decommissioning scenario with JGT processes and accompanied by the substitution of energy production with RES / PV will also be assessed (from now on Scenario 2 – S2). This scenario will assess the implications of the decommissioning of the TPP Oslomej, with closure and decommissioning processes accompanied and followed by adequate programme for the transition of the direct labour force and its implications on the local/regional economy, while also investing in RES production with PV.

Both decommissioning scenarios (S1 & S2) will assess just transition from the perspective of socio-economic and environmental effects. The scenarios are aiming to be credible and feasible, presenting a realistic ecologically, economically and socially sustainable vision, considering the policy framework.

The decommissioning scenarios (scenarios 1 & 2) to be researched and elaborated, will be compared with a baseline scenario (Scenario 0- So) which will be the 'business as usual or as is' scenario – assuming that the operations of TPP Oslomej will be continued by 2025 and then the operations will be ceased. The baseline scenario will be contained on the assumption that it will encompass only closure (retirement) without any other related decommissioning or alternative transition processes to tackle local/regional socio-economic negative effects. Nevertheless, there have been announcements for the extension of the operations of the TPP to 2030, caused by the energy supply crisis. This will not be considered in the baseline scenario.

The So will assume that the current policy decision for decommissioning of TPP Oslomej will be realized by 2025<sup>27</sup> and it will assess the longer-term effects (up to 15 years) on the local/regional economy, via measuring costs and benefits and through input-output analysis.

<sup>24</sup>

<https://api.klimatskipromeni.mk/data/rest/file/download/42f9ac7f1681999a5ecceb18ca6d9f48786ee2e480757e39e4b98d062d6f57f3.pdf>

<sup>25</sup> <https://www.moepp.gov.mk/nastani/%D0%BD%D1%83%D1%80%D0%B5%D0%B4%D0%B8%D0%BD%D0%B8-%D1%98%D0%B0-%D1%83%D1%81%D0%B2%D0%BE%D0%B8%D0%B2%D0%BC%D0%B5-%D0%BF%D1%80%D0%B2%D0%B0%D1%82%D0%B0-%D0%B4%D0%BE%D0%BB%D0%B3%D0%BE%D1%80%D0%BE%D1%87/>

<sup>26</sup> Ibid.

<sup>27</sup> The latest announcements for possible extension after 2025 (2027 -2030), will not be considered for the purpose of the baseline, because they are not aligned with the valid Strategic documents.

*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.*



The territorial scope of the scenarios' (S<sub>0</sub>, S<sub>1</sub>&S<sub>2</sub>) implications will be limited on a local/ statistical regional level (Kichevo and Southwest planning region) justified the by level of data disaggregation availability, size and the contribution of the TPP to the overall energy production - as it is expected to primarily affect the local economy.

Furthermore, due to the nature of the research and the objective limitations such as data access and availability, time and resource restrictions, certain aspects will not be elaborated (such as health, ecosystem services, cross-border effects, etc.).

The time scope of the scenarios developed will be limited up to 15 years, as a full-fledged decommissioning, as well just transition processes are long-term.

The assumptions collectively as well as per scenario are elaborated in more details below.



Table 6. Presentation of the scenarios

	<i>Scenario 0 – Closure of TPP “business as usual” – baseline</i>	<i>Scenario 1 – Decommissioning with just transition</i>	<i>Scenario 2 - Decommissioning with just transition and substitution of energy production with RES / PV</i>
<b>Description of the transition scenario</b>	Retirement of TPP Oslomej’s operations by 2025	Decommissioning (remediation, environmental abatement, demolition, and closure) of TPP Oslomej, with just transition measures for mitigation of economic, social and environmental impact in the SWPR	Decommissioning (remediation, environmental abatement, demolition, and closure) of TPP Oslomej, & substitution of the energy production with RES / PV, with just transition measures for mitigation of the economic, social and environmental impact in the SWPR
<b>Underlying assumptions</b>	<ul style="list-style-type: none"> <li>• The long overdue closure of TPP Oslomej takes place by 2025</li> <li>• Full depletion of the coal mining reserves (lignite), and no new mine locations are initiated</li> <li>• No strategic measures to tackle JT will place until full retirement of TPP (considering the lack of implementation so far)</li> <li>• There are no local policies and support measures for transition in the next three years</li> </ul>	<ul style="list-style-type: none"> <li>• Developed programs for socially responsible and just transition to mitigate negative effects associated with job losses, and stimulating new job opportunities in low carbon technologies and services.</li> <li>• Enhanced role of the municipality to provide effective transposition of national policies at local level</li> <li>• Local / regional and national authorities cooperate to plan and enable just transition.</li> <li>• ESM business operations are adjusted to cope with the challenges related to decarbonisation</li> <li>• Legal and regulatory aspects, strategic documents are aligned and in compliance with the Energy Community (EnC) acquis.</li> </ul>	<ul style="list-style-type: none"> <li>• Investment in construction of a solar power plant to make use of infrastructure (site and transmission network)</li> <li>• Developed and followed employee plan for job transformation.</li> <li>• Developed programs for a socially responsible and just transition to mitigate negative effects associated with job losses, and stimulating new job opportunities in low carbon technologies and services.</li> <li>• Enhanced role of the municipality to provide effective transposition of national policies at local level</li> <li>• Local / regional and national authorities cooperate to plan and enable just transition.</li> <li>• ESM business operations are adjusted to cope with the challenges related to decarbonisation</li> <li>• Legal and regulatory aspects, strategic documents are aligned and in compliance with the Energy Community (EnC) acquis.</li> <li>• Regulatory framework and support of relevant public institutions for new investments in RES is in place.</li> <li>• Developed policies and measures implemented, stimulating new services and jobs (especially for SMEs).</li> </ul>
<b>Limitations (what is not going to be covered by us)</b>	<ul style="list-style-type: none"> <li>• Limited territorial scale – covers only SWPR; national and cross-border effects will not be considered</li> <li>• Limited access to data – reliance on official, publicly available data, from national, local and international stakeholders</li> <li>• Limited impact assessment scale - focus on the environmental, social, and economic impact of the just transition process, while limited consideration on institutional, political, health, access to justice or other not-so-easy to monetize and quantify impacts</li> <li>• Limited time and resource availability</li> <li>• Limited ability to fully address the risks associated with the transition scenarios</li> </ul>		

### 5.4.3. The objective and methodology of research

The research on the decarbonization of the region where TPP Oslomej is located, is a single ex-ante case study, conducted through scenario-based economic analysis backed with a cost-benefit analysis (CBA) and impact comparison. The approach will consult cases of JGT processes for coal-fired thermal plants via CBA and input-output economic analyses, especially in the region and Europe.

The overall objective of the case research is to provide:

“Assessment of the impact of the just transition of TTP Oslomej’s decommissioning scenarios, considering the current policy and policy plans, from socio-economic and the environmental aspect, on the territory of SWPR.”

Thus, the central research question is:

“What are the potential long-term regional socio-economic and environmental effects from the implementation of just transition decommissioning scenarios of TTP Oslomej?”

Table 7. Case Research questions

	<b>Scenario 0 – Closure of TPP Oslomej “As Is - business as usual” – baseline scenario</b>	<b>Scenario 1 – Decommissioning with just transition</b>	<b>Scenario 2 - Decommissioning with just transition and substitution of the energy production with RES / PV</b>
<b>Overall research objective</b>	Assess the impact of the just transition of TTP Oslomej’s decommissioning scenarios, considering the current policy and policy plans, from socio-economic and the environmental aspect, on the territory of SWPR.		
<b>Central research question</b>	What is the size and what are the potential long-term (15 years) regional socio-economic and environmental effects from the implementation of just transition decommissioning scenarios of TTP Oslomej?		
<b>Sub-questions:</b>	<ul style="list-style-type: none"> <li>• What is the current state of and the degree of alignment of the just transition policies of North Macedonia, with the EU?</li> <li>• What is the size of the regional economic contribution of the energy sector on the regional SWPR economy to be directly and indirectly impacted with the TPP’s retirement? (economic losses)</li> <li>• What are the economic costs and benefits (identification, scope, and size) of the business-as-usual scenario vs. the decommissioning of the coal TPP considering just transition processes?</li> </ul>		
	<ul style="list-style-type: none"> <li>• What are (identification &amp; quantification) the assumed local/regional effects, costs and benefits, on the economic production (value added) from the closure of TPP Oslomej?</li> <li>• What are (identification &amp; quantification) the assumed local/regional social effects, costs and benefits, on the labour market (direct and</li> </ul>	<ul style="list-style-type: none"> <li>• What are (identification &amp; quantification) the assumed local/regional effects, costs and benefits, on the economic production (value added) from JT decommissioning of TPP Oslomej?</li> <li>• What are (identification &amp; quantification) the assumed local/regional social effects, costs and</li> </ul>	<ul style="list-style-type: none"> <li>• What are (identification &amp; quantification) the assumed local/regional effects, costs and benefits, on the economic production (value added) from JT decommissioning and substitution of the energy production with RES / PV of TPP Oslomej?</li> </ul>



	<p>indirect employment) from closure of TPP Oslomej?</p> <ul style="list-style-type: none"> <li>• What are the assumed local/regional effects, costs and benefits, on the environment (GHG emissions) from closure of TPP Oslomej (identification &amp; quantification)?</li> <li>• What are the other elements that have impact on the effects, costs and benefits from closure of TPP Oslomej, and are not considered / not part of the research scope, due to limitations (identification without quantification)?</li> </ul>	<p>benefits, on the labour market (direct and indirect employment) from JGT decommissioning of TPP Oslomej?</p> <ul style="list-style-type: none"> <li>• What are the assumed local/regional effects, costs and benefits, on the environment (GHG emissions) from JT decommissioning of TPP Oslomej (identification &amp; quantification)?</li> <li>• What are the other elements that have impact on the effects, costs and benefits from the JGT decommissioning of TPP Oslomej, and are not considered / not part of the research scope, due to limitations (identification without quantification)?</li> </ul>	<ul style="list-style-type: none"> <li>• What are (identification &amp; quantification) the assumed local/regional social effects, costs and benefits, on the labour market (direct and indirect employment) from JGT decommissioning and substitution of the energy production with RES / PV of TPP Oslomej?</li> <li>• What are the assumed local/regional effects, costs and benefits, on the environment (GHG emissions) from JGT decommissioning and substitution of the energy production with RES / PV of TPP Oslomej (identification &amp; quantification)?</li> <li>• What are the other elements that have impact on the effects, costs and benefits from the JGT decommissioning and substitution of the energy production with RES / PV of TPP Oslomej, and are not considered / not part of the research scope, due to limitations?</li> </ul>
<p><b>Research methodology, instruments</b></p>	<ul style="list-style-type: none"> <li>• Methodology: ex ante case scenario impact assessment</li> <li>• Approach: economic input output analysis and CBA</li> <li>• Data &amp; sources: <ul style="list-style-type: none"> <li>- Statistical data</li> <li>- For Policy analysis – desk review, content analysis, and interviews</li> <li>- Desk research – Secondary research data, analysis, assessments</li> </ul> </li> <li>• Primary research <ul style="list-style-type: none"> <li>- Focus group with local stakeholders</li> <li>- Interviews with policy and decision-makers</li> </ul> </li> <li>• Empirical analysis <ul style="list-style-type: none"> <li>- Economic base</li> <li>- CBA</li> </ul> </li> </ul>		



## i) Input-output analysis:

- Regional economic base analysis to determine local sector(s) coefficients and give a closer look at the potential social-economic impacts linked to the decarbonization in specific industries/sectors. The analysis will enable estimation of the impact on employment and the value added in the region and thus reflected in the overall economy through transitioning. The results will be then modelled in several simple case scenarios (So, S1, S2) under different assumptions. In the social part of the analysis, we will consider the regional demographics and potential for shifting and options for sustainable support for the timely and fair transition of the directly and indirectly affected population.
- Data and sources: statistical data, desk research

## ii) CBA analysis:

- the economic cost-benefit analysis (ECBA) through the different scenarios will compare the projected and estimated costs and benefits associated with the specific scenarios. The cost-benefit analysis will involve tallying up all costs and subtracting the projected benefits of the scenarios, monetized to the degree possible. Besides the financial costs and benefits of the scenarios, the environmental and social costs which be considered, as well. Other costs and benefits which are not quantifiable (difficult to monetize) or due to limited data access, such as ecosystem services, health, cross-border effects, culture degradation, migration, biodiversity, or other social risks, will be listed and described to be considered for future research and study considerations. As we assess the scenarios, i.e. costs and benefits, from economic as well as environmental standpoints various costs and benefits may be categorized as one-time while others such as environmental and social as long-term. Furthermore, there may be system costs and benefits however the analysis will primarily focus on the local/regional specific ones which are incurred or accrued and can be easily monetized (backed).

The considered costs and benefits in the scenarios will cover (but not exclusively):

- Financial costs and benefits: Investment costs, Operating costs, Financial revenues,
- Socio-Economic & environmental costs and benefits: Costs and savings from jobs lost, Costs and savings from environmental impact, opportunities from diversification and job transition, etc.
- Data and sources: statistical data, desk research, and primary data research (interviews and focus groups)

## 5.5 Sustainable Mobility – Transitioning Public Transportation at Local Level, Serbia

### 5.5.1 Introduction

The Republic of Serbia has committed to aligning with the European Green Deal's key elements by endorsing the Green Agenda for the Western Balkan (GAWB) at the Summit in Sofia in 2020, and subsequently the GAWB Action Plan, at the Brdo Summit in October 2021. Since then, the Republic of Serbia initiated the process of decarbonization of the economy and industry and started preparing measures to promote just green transition (JGT). Adopted is the Law on Climate Change prepared by the Ministry of Environment, as well as the set of new laws in the field of energy, including the first Law on Renewable Energy Sources and the new Law on Energy Efficiency and the Rational Use of Energy.

In addition to the above-mentioned policies (which were adopted in 2021), when it comes to the pillar of Decarbonization (Climate, Energy & Mobility), Serbia adopted other, also very important policies at the national



level such as the Integrated National Energy and Climate Plan for the period 2021-2030 with a vision until 2050 (INECP), the Law on the Spatial Plan of the Republic of Serbia, Draft of the Spatial Plan of the Republic of Serbia 2021-2035 (in procedure), the Long term building renovation strategy Republic of Serbia 2050, the Sustainable Urban Development Strategy of the Republic of Serbia until 2030, the Climate Strategy & Action Plan of the Republic of Serbia and the Strategy for Development of the Energy Sector of the Republic of Serbia until 2025 with projections until 2030. The Ministry of Mining and Energy is in the process of developing two important documents that would enable implementation of the green transition in a just way – Energy development Strategy and Integrated National Plan for Energy and Climate Up Until 2050.

Adopted national policies that are under other four pillars of the GAWB are The Law on Waste Management, The Law on Packaging and Packaging Waste, Waste Management Program of the Republic of Serbia for the period 2022-2031 and Industrial Policy Strategy of the Republic of Serbia from 2021 to 2030 (Circular economy), The Law on Environmental Protection (which basically covers all pillars of GT), Air Protection Law, The Law on Waters, The Law on Soil Protection (Depollution), The Law on Nature Protection, National strategy for sustainable use of natural resources and goods and Biodiversity Strategy of the Republic of Serbia (Biodiversity), Law on Agriculture and Rural Development and The Law on planning and construction (Sustainable Food Systems and Rural Areas). In general, the decarbonization pillar went the furthest in terms of applying the postulates of the JGT.

The adoption of these laws and policies in previous years initiated a series of activities and projects related to JGT. Nationally important are EU for Green Agenda in Serbia, advancing medium and long-term adaptation planning in the Republic of Serbia, ALTERENERGY - Energy sustainability for Adriatic small communities (projects), Roadmap for circular economy in Serbia, Initiative for a Just Green Transition and Decarbonization in Serbia, ECO SYSTEM Programme, Zero Waste Municipalities (initiatives and practices), etc.

The current overview of the policies that concern the JGT in Serbia consists mainly of the national level, but there are examples of policies on the regional and local one too. Significant regional policies and practices are related to the administrative areas of the City of Belgrade and the autonomous region of Vojvodina (Sustainable Energy and Climate Action Plan for the City of Belgrade – SECAP, Sustainable Urban Mobility Plan for the City of Belgrade, Green City Action Plan for the City of Belgrade, AP Vojvodina Environmental Protection Program for the Period 2016-2025 etc.) while local activities and policies are mostly concentrated in larger and better developed municipalities and cities (Novi Sad, Niš, Kragujevac, Kraljevo, Subotica etc.).

The situation in terms of activities, practices and policies in the research territory, the city of Kragujevac (more specifically, the urban settlement of Kragujevac) is better than in most local governments in Serbia. In the previous decade, the city of Kragujevac adopted a number of documents/policies at the local level that are important or directly related to the JGT, such as: Spatial Plan of the City of Kragujevac, Local Waste Management Plan of the City of Kragujevac, Program of Local Economic Development of the City of Kragujevac, Strategy of integral urban development of the central city zone - Kragujevac 2030, etc.

The main problem in Kragujevac is that most of these documents have expired or their validity period will expire soon. The preparation and adoption of new policies, for which there is a desire in the local self-government (for some of them the initiative has already been launched), represents an excellent opportunity to incorporate the JGT principles into them and thus create a model/example for other local governments in Serbia.

The research case of UB-GEF within the GreenFORCE will focus on the first pillar of the Green Agenda for the WB (cleaning energy sources & protecting the climate), especially on the aspect of just transition in the sector of Smart and Sustainable Mobility. As Woodcock et al., 2007. stated: "sustainable mobility offers improvements in individual



health as well as a cleaner and healthier environment". So, indirectly the objectives of the case study will go in line with the pillar Depollution in a sense that the actions within the research study will try to demonstrate how the integration of the proposed solutions into innovative land-use management, urban design and planning could reduce health-related environmental burdens in inner urban zones, foster equitable access to public transport, enhance their quality and use and promote sustainable urban mobility patterns.

The social aspect of the GreenFORCE project aims to improve the attitude of the citizens towards the city they live in and towards each other, foster a sense of identity and empowerment and achieve a new social balance in the ownership and management of the city. The relationship with space is recognized through cognitive, emotional and behavioural aspects of attachment to a certain city or place of residence. Sense of place can be used as a base for comprehending the well-being since it is thought to be one of the main explanation of peoples' tendency to stay in a given place and provides them with sense of safety and feeling of rootedness. Different dimensions of sense of place play a different role in establishing positive relation with place, and will be therefore included in our research approach.

Through a participatory approach, verification of the procedure, data and concept will be ensured, but the feeling of belonging to the idea and the final solution will be improved. Citizens are especially expected to react to the transformation of classic public city transport into ecologically sustainable ones, in the layout of stations, defining routes, etc.

The research proposal directly supports social objectives, as part of its offering in terms of improvement of urban quality of life and health. It also promotes the 'sense of ownership' among stakeholders involved in the participatory and decision-making processes resulting in feeling of responsibility (for the space maintenance, quality and further development) and increased social inclusion (as a result of densification of social ties, opening up of intra-group communication and the multi-faceted engagement that allows for solutions co-creation)

### 5.5.2 Scenario development

The urban system of Kragujevac, as well as the cities of a similar size, is heavily burdened by intense traffic and frequent traffic jams, which result in increased travel time to a certain destination, higher fuel consumption, significant air and soil pollution, as well as dissatisfaction of citizens and other transport consumers. Special problems occur in the central areas of the City, which suffer from special pressure and additional load. Public transport, which is reduced to the use of conventional buses and taxis, faces similar problems, multiplied by an insufficiently dispersed urban matrix, narrow and impassable streets, the absence of yellow lanes on all routes, etc. For this reason, it is necessary to develop a scenario that would contribute to the improvement of the entire situation and cause numerous positive integral effects.

The idea involves combining technical innovations, urban planning solutions, synchronized development policies and the support of the city administration and local public institutions. Further on, the implementation of such a scenario would be the basis for the development of the Public Urban Mobility Strategy and its incorporation into the General Urban Plan that will soon be developed for the construction area of the Kragujevac settlement. The area that was treated is rectangular in shape, with approximately 141 ha, and includes mainly commercial and residential content, along with a large number of public buildings, a pedestrian zone, a part of greenery and protected cultural content. That's why it is attractive to a large number of users who do business or live there.





Accessibility to this zone is ensured, apart from individual vehicles, through 35 lines of city traffic<sup>28</sup>, which bring a large percentage of consumers of about 30,000 users of public transport per day. A pronounced concentration is especially present on border traffic dominants (Nikole Pašića Street and others). Kragujevac average inhabitants' mobility, determined by the household survey, amounts to 2.21 trips per day by all means, which if applied to the number of the population of Kragujevac (about 152,400), results in 336,750-day trips. . (Traffic Study for the General Plan of the City of Kragujevac 2025, 2018.)

The research will include the development of a possible scenario as follows. Conventional buses (diesel fuel) will drive to the border of the treated territory and drop off passengers at a properly distributed number of stops. It was also assumed that the existing parking lots will be used and a minimum of two new ones will be built for individual vehicles (at the border itself or within the zone, which is the current situation). The second step is the construction of at least one new street that would improve the accessibility of the central area and relieve the already overloaded roads. Further on is the detailed elaboration of the idea to completely ban the use of classic city transport vehicles within it and introduce electric buses to replace them. They would move along the border of the territory, but also within it, where the aim would be to ensure a 5-minute *isochronal* from every place in the centre to the electric bus station. Individual vehicles would have the possibility of entry, but with the policy of charging for parking, demotivating staying or reducing the time of communication or access to certain parts of the zone, it would be gradually reduced. Furthermore, with the final realization of the scenario, it would be expected to increase citizens' interest in using this type of transport and restore confidence in the reliability of public transport. Technically, it is necessary to work out special places for charging and servicing buses near the route, speed of reaction in cases of unplanned events, replacement vehicles, when necessary, etc. In parallel with the traffic transformation process, the use of smart technologies that contribute to its better implementation will be ensured (solar panels at stations, information system, sensors on buses that measure pollution, an improved ticket sales and verification system, horizontal and vertical markings, etc.)

In particular, effects can be expected in terms of reducing air and soil pollution, reducing noise and eliminating potential stress and illness caused by these phenomena. An increased need for hiking and cycling, through specially marked paths and routes, is to be expected.

Finally, the economic effects will be visible not only through fuel savings, but also through the improvement of the overall content of the central zone, a cleaner and better-quality environment, which will lead to an increase in the price of real estate and free space. In line with that, positive effects as a consequence of redistribution in transport movements would directly affect the economic aspects of system functioning through increasing its own income (income from the sale of transport services) and ecological sustainability of the city transport system in Kragujevac expressed through the reduction of harmful emissions caused by passenger cars. In this way, the city of Kragujevac would directly implement the EU strategy related to achieving sustainable goals development and quality of life in relation to transport systems, through the realization and management of the policy based on the principle of realizing the residents' mobility with limited use of passenger cars.

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<sup>28</sup> The network of system lines of the public urban and suburban passenger transport in the city of Kragujevac consists of 35 network lines with a total operational length of 641.66 km. Looking at the subsystems, the city network consists of 23 lines with a total operational length of 301.38 km. The suburban subsystem has a network of 12 lines with an operational length of 340.28 km.



### 5.5.3 The objective and methodology of research

Table 8. Case Research questions, Serbia

	<b>Scenario – introducing electro buses instead of conventional public transportation (buses)</b>
<b>Overall research objective</b>	To increase the number of public transportation users in the inner-city centre of Kragujevac and minimizing air and soil pollution in the investigated area.
<b>Central research question</b>	What are the positive and negative effects of introducing the environmentally friendly vehicles and other organizational measures related to the improvement of sustainable public transport?
<b>Sub-questions:</b>	<ul style="list-style-type: none"> <li>• To what extent are policies, laws, strategies, plans aligned with EU policies in the field of sustainable urban mobility?</li> <li>• What is the cost of transitioning to a sustainable form of public transport?</li> <li>• What are the social, economic and environmental costs and benefits of the business-as-usual scenario vs. the introducing new sustainable public transport?</li> <li>• In what way will urban solutions contribute to a better implementation of the scenario?</li> <li>• Is it possible to apply this model also to other parts of the City of Kragujevac?</li> <li>• Is it possible to apply this model in other urban areas in cities of similar size?</li> <li>• What economic effects can be expected in the central zone of the city of Kragujevac (prices of apartments and free spaces, for example, etc.)</li> <li>• What ecological effects can be expected in the central zone of the city of Kragujevac (reduction of CO<sub>2</sub> emissions, greenhouse effect, etc.)</li> <li>• What are the social effects that can be expected after the implementation of the scenario? (Qualitative indicators, subjective feeling, aesthetic improvements, new identity, etc...)</li> </ul>
<b>Research methodology, instruments</b>	<ul style="list-style-type: none"> <li>• Methodology: ex ante case scenario impact assessment <ul style="list-style-type: none"> <li>- Document research - plans, strategies, sectorial studies etc.</li> <li>- Legislative background analyses</li> <li>- Economic analysis - Input-output analysis and cost benefit analysis</li> <li>- Interviews – semi-structured with local policy actors and stakeholders</li> <li>- Field work and survey - close contact with citizens and articulation of their interests</li> </ul> </li> <li>• Approach: Integral input output analysis and CBA</li> <li>• Data &amp; sources: <ul style="list-style-type: none"> <li>- Open data Statistical data (see below)</li> </ul> </li> <li>• Primary research <ul style="list-style-type: none"> <li>- Focus group with local stakeholders</li> <li>- Interviews with citizens, groups, policy and decision-makers</li> </ul> </li> <li>• Empirical analysis <ul style="list-style-type: none"> <li>- Economic base</li> <li>- CBA</li> </ul> </li> </ul>

#### Data and sources

Majority of the data will be collected from the Open data portal. Other data will be collected from Statistical Office of the Republic of Serbia, Republic Geodetic Authority, the Serbian Business Registers Agency, official documents adopted by the City of Kragujevac, different studies, researches etc. In the research, as well for the scenario purposes, the COPERT and GTFS for the City of Kragujevac are going to be used. Also, significant data will be calculated and created during the research using GIS tools for different geospatial analyses.



The central area of the City of Kragujevac is divided in 92 Census Circles (Figure 4). Each of the Census Circles can be used for the data collection about the number of inhabitants, number of households, age structure and other data relevant for the research. The data collected from the Census can be used for very accurate estimation of the population, permanently settled in the central city zone and affected by the scenario. These data are collected by Statistical Office of the Republic of Serbia and available upon request for the research purposes.

Figure 4. Census Circles in the city core zone, Kragujevac - Serbia



On the other hand, data about the number and structure of the Business Registers gathered from the Serbian Business Registers Agency, also based on the available street codes, can be used for the estimation of the economic impact of the proposed scenario. Additionally, these data can be used for the estimation of the scenario impact on the workers and daily commuters. These data are collected by the Serbian Business Registers Agency and available upon request for the research purposes.

Urban buses have energy and environmental impacts because they are mostly equipped with heavy-duty diesel engines, having higher emission factors and pollution levels. Research will identify bus pollutant emissions including CO, CO<sub>2</sub>, HC, and NO<sub>x</sub> at road sections, intersections, and bus stops for different fuel types; and explore the changes in emissions for different locations in the road sections, bus stops, and intersection influence areas. For different locations and fuel types, the differences in emissions were all statistically significant. Mean distribution deviation (MDD) values for different locations indicated that there were more obvious differences in emissions between road sections and intersections. In addition, heat maps were applied in this study to better understand changes in bus emissions for different locations in the bus stop influence areas, intersection influence areas, and road sections.

The field data consisted of two parts: (1) bus vehicle characteristic data include fuel type, vehicle speed, and acceleration; and (2) emission situation data include bus pollutant emissions of carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), hydrocarbon (HC), and nitric oxides (NO<sub>x</sub>).

Ecological impact will be calculated precisely based on the:

- Number of existing bus lines passing through the city centre zone (Figure 5)

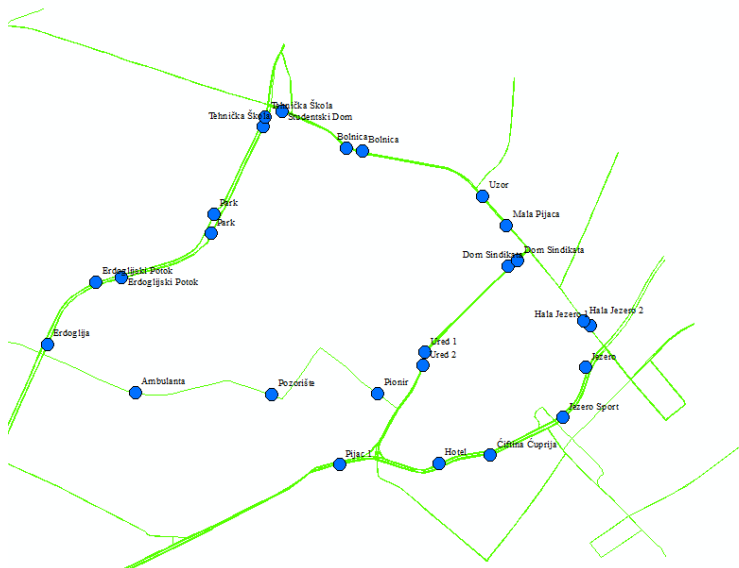


Figure 5. Existing bus lines passing through the city centre zone, Kragujevac - Serbia



- Number of daily trips
- Spatial distribution of the bus stops (Figure 6)

Figure 6. Spatial distribution of the bus stops, Kragujevac - Serbia



- Spatial distribution of the crossroads
- Length of the bus line
- Emission values for different types of engines with internal combustion (EURO 5, EURO 4 etc.) based on the (Wang, C., Sun, Z. and Ye, Z. (2020). )
- Walking 5 minutes isochrones distances from the bus stops (Figure 7).

Figure 7. Area marked in red – not accessible in 5 minutes walking distance from the bus stop, Kragujevac - Serbia



Numerous documents, adopted by the City of Kragujevac or created by the City's administration are going to be used for the data collection and better understanding of present state and future goals in city development. These documents are the following:

- City of Kragujevac Traffic Development Strategy 2012-2022
- Traffic Study for the General Plan of the City of Kragujevac 2025
- Traffic infrastructure analyses for the General Plan of the City of Kragujevac 2025
- Public City and Intercity transport in the City of Kragujevac – research study etc.



## 6. From “contextualisation” towards “conceptualisation” of JGT in the Western Balkans

A number of aspects were highlighted so far as key to the achievement of just green transitions in the Western Balkans, including the knowledge on JGT processes, public acceptance and engagement, institutional and governance reformation, societal preparedness, and addressing of spatial conditionalities and implications. Such aspects are not unique to the WB region, but exhibit distinct features from other European regions. This is an indication that territories are different and their particularities would be affected by the JGT in different ways and preparing for the transition is place-specific. In this sense, though the JGT for the WB is recognised as a process stemming from the strategic framework of the European Green Deal, its specific conceptualisation for the region remains a task to be completed. This is not merely a theoretical conceptualisation, but also applied, suitable to the regional context.

This discussion part intends to pave a way for exploring just green transitions in the Western Balkans, trying first to contextualise JGT initiatives in relation to the region, and secondly trying to further the conceptualisation effort which comes within the need to address practically the conditionalities, challenges and opportunities that JGT poses in the region

### 6.1 The policy context of JGT in Western Balkans: Progress, Gaps and Challenges

A theoretical conceptualisation of JGT for the WB has to be confronted with the respective policy context. It is in this confrontation where research gaps on an applied JGT concept can be identified and that sound policy recommendations for the JGT can be formulated. Following on the dispositions of the Green Agenda for the Western Balkans, the region has significant potential for developing sustainable and green economies, with its profusion of natural resources providing the basis for shifting towards renewable energy resources, embracing circular economies, as well as supporting organic agriculture.

Yet, transiting to climate-neutrality is not without costs and to achieve its benefits, the countries and the region as a whole should prepare ahead, not only at governmental level, but at societal level as well. As the following section shows, the policy preparedness of the region for transition (the current state of policies and practices) has yet to improve to meet the challenges and opportunities ahead the JGT implementation.

#### 6.1.1 WB Policies Toward Green Transition – progress so far

Having in place sound policies for green transition, is highlighted in almost every document issued by the EU, being those the guidelines for implementing the Green Agenda, the Economic and Investment Plan 2021 -2027, Green Agenda Action plan, and even in each country’s progress report. As most of the legislative processes in the region are shaped by the EU integration process, the slow/incomplete progress of the transposition of the EU *acquis* in one hand, and the non-implementation of already transposed legislation, marks one of the biggest challenges towards green transition (Aspen, 2021).

The preparedness of the policy context was ranked as the highest of priorities by the regional stakeholders in the co-design workshops organised by GreenFORCE in November 2022 regarding the conceptualisation of JGT for the



WB<sup>29</sup>. Additionally, the ongoing mapping process of policies carried out in the frame of the GreenFORCE for North Macedonia, Albania and Serbia, highlighted as well low/non-readiness of the WB in terms of policy engagement.

For example, none of the WB countries has adapted a National Energy and Climate Plan (NECP) (Aspen, 2021), nor have they developed a long-term decarbonisation Plan. The only exemption here is North Macedonia, which has in place and adopted a draft NECP, and mentions a just transition programme as one of the policy measures of this plan. When it comes to climate related legislation, circular economy, or biodiversity etc. none of the countries have a comprehensive, ready to be implemented policy; nor do these (fragmented) legislative documents contain all crucial elements of EU legislation. Summarising, on the co-design workshop discussion and results, the following policy gaps, for each of the five pillars could be mentioned:

- **Carbon neutrality**, is rather a new concept of the WB countries, which has not dominated the countries' policies so far. While some countries utilise hydropower's as source of energy (Albania for example), the majority of the region still relies on the coal<sup>30</sup> as primary source of energy.
- In both the European Green Deal, and the Green Agenda for the WB, tackling the issue of transition from linear economy towards **Circular Economy** is a fundamental block of JGT. While some effort is being made by the private sector into innovation, the WB governments have done little to fuel this new economic model at a policy level. This implies the lack of policies dealing with the waste management (for example, waste disposal, selection of wastes), as well as to incentive measures to businesses and SMEs adopting circularity models.
- As for **Pollution**, the WB countries remain the most polluted countries in the EU<sup>31</sup>, being that of air pollution, soil, and water. To address this issue, policies in place, should be first hand fully implemented (e.g. sanctions to the water polluters), and monitoring and continuous assessment being the prerequisite to ensure and enforce existing legal frameworks, and future commitments to the EU. Of course, this would require further and more sustained financial resources, especially when dealing with water or soil infrastructure.
- **Agriculture and food security** face some other challenges in the WB. Issues here range from the low labour productivity hence low levels of export due to lack of technologies, to the small size of the agriculture farms and the inefficiency to produce competitive products. While sustained support was usually given to the rural areas (even through IPARD Funds), comprehensive reforms in the agriculture sector still lack.
- When it comes to **Biodiversity**, the WB take pride on the richness of its habitats, as well as the presence of the endemic species. Yet much progress is still to be done, in one hand for creating awareness about the importance of preserving these ecosystems, and on the other hand on making real the commitment to implement the "2030 Biodiversity Strategic Plan" which should be aligned with the EU Biodiversity Strategy for 2030<sup>32</sup>.

To sum up, tackling green transition, starting above all from the policy level, poses a challenge for the WB governments. They should shift from merely 'commitment in agreements' coupled with the 'business as usual'

<sup>29</sup> The first co-design workshop on conceptualization of green transition in the Western Balkans, was conducted on 8<sup>th</sup> of November 2022, bringing together around 50 actors and stakeholders from the WB countries while discussing the challenges and the way ahead green transition in the region.

<sup>30</sup> Further reference and empirical evidence is provided in the case study section of this document below.

<sup>31</sup> Further reference: <https://bankwatch.org/publication/implementation-of-the-air-quality-directive-by-western-balkan-countries-2022-update>

<sup>32</sup> See : [Biodiversity strategy for 2030 \(europa.eu\)](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020R1828)



approach towards a significant practical and change-making effort, resulting in legislation changes, investments and direct involvement of all stakeholders.

### 6.1.2 Challenges and Opportunities ahead

One of the biggest challenges in terms of JGT, is creating a basis and ground for common understanding on the issue. As stated in Aspen's (2021) latest report, at this point in time in relation to the GAWB, creating space for public dialogue is fundamental, as all stakeholders come with different views on the priorities and challenges related to the implementation of the Green Agenda for the Western Balkans. In this context, for example, jobs losses as a result of decarbonisation and the lack of access to natural resources for livelihood in rural regions, appear to be one of the most significant governmental and community concern about accepting the transition. To avoid rejection and have every stakeholder on board, means strengthening the transparency of processes, knowledge sharing and inclusiveness in the JGT decision-making. These represent practical challenges for the WB governments, which in the last three decades showed lack of cross-sectorial cooperation and accountability.

On the other hand, the JGT provides immense opportunities for the whole society. Transitioning means having options and chances to develop into new, innovative directions, more efficient and beneficial, where people and environments can also thrive together. JGT offers opportunities in terms of research and development for research institutions and academia as well. New sector research pathways, new curricula and citizen science constitute three rich avenues for the universities to reform and slowly close the gap with their sister institutions in the EU. Furthermore, the civil society sector may eventually reinvent its cooperation with multiple stakeholders and advocacy action influencing policies for green transition and strengthening the role of communities in decision-making.

To benefit from these opportunities while working together to address challenges, the civil society, researchers, businesses and government institutions would need to know and analyse impacts of JGT prior to embarking into implementation.

Adding to the discussion, the regional actors that participated in the co-design process<sup>33</sup> for conceptualising just green transition in the Western Balkans (organized under the auspices of GreenFORCE), highlighted among others the following factors that are expected to challenge JGT processes in the Western Balkans:

- The lack of human and technical capacities, as well as financial resources to push forward the green agenda;
- New skill sets should be introduced and target all affected communities, especially the most vulnerable ones;
- Policies, and legal provisions for each of the five pillars of the Green Agenda, are not fully addressed or transposed into specific national/regional/local policies, leaving room for vague implementation of the actions.
- There is limited knowledge about new technologies that can be used to facilitate the transition, due also to a lack of funding and incentives for technological advancement. As a result, technological niches are either limited in number and typology, or merely isolated cases imported from the more advanced countries;

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<sup>33</sup> Two workshops were organized in November 2022. A full report on the methodology, implementation and results of both workshops, including inputs to the current report (Deliverable 4.1) is provided in Annexes 1 and 2.





- The monitoring systems that are publicly used to measure pollution levels (air, water and soil) are lagging in terms of technology and number of places monitored – the number of monitoring stations and monitoring days is insufficient to provide adequate information for the climate adaptation and mitigation and JGT policies.
- On a spatial level, the territorial inequalities are growing and the quality of life is either decreasing or unequally improving among territories. Additionally, it is difficult to conduct territorial and sectorial impact assessments of the upcoming JGT policies or actions. Such assessments are missing to date due to sluggishness of public institutions, lack of resources and commitment, and inadequate infrastructure and data. The latter is particularly weak for impact assessments on a regional and cross-border scale. Furthermore, territorial planning, though reformed in most WB countries in the last 10 years, it does not as yet contain instruments that reflect the JGT needs and requirements from a spatial perspective. Spatial planning has yet to address territorial quality of life, particularly for the more disadvantageous areas and remote rural communities, while also contributing to solving environmental disparities in the urban areas. In absence of JGT territory-specific policies, spatial planning remains steps behind the transition's reality.
- Finally, there is still a significantly large gap in research and innovation when it comes to JGT in the Western Balkans, which is highly affected among others by the lack of accurate data.

## 6.2. Potential preconditions for adopting JGT in the Western Balkans

The discussion on JGT contextualisation as well as this very first attempt towards conceptualisation for the Western Balkans, leads to a first set of potential preconditions for adopting and implementing it. This is only a first attempt, as it is the research on cases (section 5) that should further feed an empirically drawn set of preconditions.

- JGT has slowly initiated in the Western Balkans, the GAWB being the first high-level policy initiative. While still in embryonic phase, there is space for the local stakeholders to engage in producing **contextual knowledge on the underlying conditions of the upcoming JGT**. This is of outmost importance in defining how the spatial construction (both territorial and governance framework) – the Western Balkans as a region and the local and regional territories within the countries will influence the progress of JGT and internalise the transition actions, and how the knowledge of it can be used to enable the purposefully planned final outcome of JGT.
- The Western Balkans comes with a unique history of **multiple socio-political transitions** – even failed ones if compared to their initial goal – which may serve as a **lesson** for stakeholders involved in the sustainability transition. As we speak, there is an overlap between political, socio-economic and sustainability/green transitions initiatives that are both policy and privately driven. The latter will have to encompass the effects and processes of the former as underlying conditions present in the existing landscape. Adding to this complexity, the unique features of sustainability transition (mentioned above and unlike those of socio-technical transitions) seem to be drawing parallels with the post-socialism transition of the WB, exhibiting non-linearity of processes and results, multidimensionality, and a top-down dominance in terms of defining the final goal of the transition. JGTs in the WB do not deriving from single innovations or from transiting from one socio-technical regime to another. It is a perceived and imposed need for change at multiple levels (referring to the MLP), striving to push them into newer levels and therefore into forging new landscapes or completely altering the existing ones. The WB is not being an innovator per se, but it is rather being directed into transition, which may either be left to constitute another interesting case for



teleological transition, or may be modified to help the region learn from its own history and move away from path dependencies.

- **Knowledge of impact (costs and benefits)** is a step that should precede policies and political decisions as well as follow up the implementation of decisions already taken. The transition management theory suggests that transition should be brought about gradually and not through immediate and/or complete substitution of the process (Rotmans et al., 2001). Such an approach lies on the fact that along with the transition, a learning process is activated which on its own affects the trajectories of the transition, producing ongoing dynamics that are more easily absorbed or accepted by the societal actors than when change is forced (ibid.). A long-term vision or goal is needed around which transition policies and actions are formed, but these should be nurtured by the dynamics of change generated along with the implementation of the transition, feeding back into iterative cycles to revise actions.
- **Democratic and multi-level governance of the JGT and strengthening of the institutions** through involvement stakeholders in policy processes, or through citizen science, etc. is a must. The governments have a particular role in transitions because through their policies they may either lead and facilitate the transitions or pose barriers to them. Transitions should not be unregulated processes, even in the most bottom-up ones, because not only the objectives of the transition would not be reached, but most importantly the transition would come with injustice and several costs for the society, and most probably rejected. Particularly in socio-technological transitions, the governments (all levels) play a role in defining how innovative niches operate within the market to create a critical mass, or flow, needed for a regime shift. Rotmans et al. (2001) picture governments with a pluralistic role, from player, facilitator to catalyst, director and consolidator. However, because the role of the governments in the society is already confined, it is crucial for the government as an actor in transition not to overstep out of its scope of action and fade the sphere of action of other societal stakeholders. This has already happened in the teleological socio-political transition of the Western Balkan countries towards market capitalism, having a negative effect on local democracies. This dangerous precedent may equally repeat itself in the sustainability transition and a reasonable way to overcome it is by addressing weaknesses of actors that plan and do the transition. In case of governments these weaknesses are both technical-financial and power struggles. But, in the case of other societal actors (citizens, businesses, research institutions, etc.) the weaknesses lie on the limited knowledge about sustainability transitions, as well as on their distance to decision-making.
- Establishing **partnerships in the region and developing place-specific transition agency** could help the countries make use of their territorial specificities in implementing JGT, increase inclusion and democracy of decision-making, and mould a region-specific rather than purposeful guided transition. JGT calls for establishing new partnerships. For instance, enabling the circular economy requires industries to coordinate the resource flow so that the waste of one industry becomes a resource for another. This would promote efficient use of natural resources, production and consumption based on knowledge about materials' life cycle and systems' metabolism, so as to return waste into the production chain. Shifting towards circular economy requires for technological transitions that take place on a niche level, for cooperation across industries, as well as transformation in consumer behaviour and individual attitudes and patterns of resource use. In some cases, this even requires co-location, for instance, to be able to use the excess heat of one industry, the recipient industry needs to be in close proximity



### 6.3. Final discussion

The green transition has sustainability at its core and to achieve this goal, it must be socially just and inclusive. EDG defines the justice of transition as leaving no-one behind and ensuring equal opportunities for all, with place-based solutions, enabling green economies. In the Western Balkans, territorial diversity is high and affected by ethno-cultural differences, as well as characterised by granular disparities. Therefore, achieving the JGT means becoming aware of the differences and recognising that not all countries, regions and stakeholders initiate the transition from the same starting point, or have the same capacity to respond, and that the most vulnerable are also the most exposed to the harmful effects of climate change and costs of JGT (European Commission, 2020c).

As the process of just transitioning is no easy task and it has to be achieved on a societal level, participation, and transparent involvement of all stakeholders in every step, from policy to action, remains key to its achievement. Yet, in order for this participation to be fruitful and constructive, all stakeholders need to be involved in the earliest stages of decision-making, including those of preparedness, in order to integrate their interests, perspectives and knowledge in the public policies being developed, while at the same time strengthening informed stakeholder participation (Aspen, 2021). Additionally, cooperation between the public and the private sector is particularly important, as businesses will have to undertake a significant share of efforts in the green transition, including investments in new technologies, innovations in product designs, and changes in the employment structure.

All things considered the Green Agenda for the Western Balkans represents a valuable platform for making the region's economies grow sustainably. Such growth would be in accordance with environmental protection and reduce various forms of pollution, thereby significantly increasing welfare and health among the WB population. (Mitrovic, 2022). And as, Monika Mörth (2022) states "...the Green Agenda for the Western Balkans is the catalyst for achieving climate goals, economic recovery in the region and convergence with the European Union".

This report only makes a first attempt to conceptualizing the JGT for the Western Balkans, while also providing avenues for deepening the JGT concept at an applied level that is specific to the WB countries (based on a case study approach as explained above).

Therefore, it only initiates the unravelling of the JGT concept for the WB, hoping that the researches proposed in this report would shed further light on pathways towards JGT and would also provide food for thought to the policy processes and policy actors in the WB. Hence, the conceptualization - here initiated - is not all-encompassing and is dynamic as per the evolving context. The current report refers to the current level of knowledge and the future alternatives as envisaged by the regional stakeholders.



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## Annexes

### Annex 1: The results of the Co-Design Workshops – Full Report



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**Annex to D4.1 Report on Western Balkans Green Transition Conceptualisation**

**Report on Co-DESIGN workshops on the Conceptualization of Green Transition in the Western Balkans**

## **GreenFORCE**

Foster Research Excellence for Green Transition in the Western Balkans

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## List of Abbreviations

**BAT:** Best Available Techniques  
**CB:** Cross Border  
**CBC:** Cross Border Cooperation  
**CEA:** Center for Economic Analyses  
**EIP:** Economic and Investment Plan  
**EU:** European Union  
**GDP:** Gross Domestic Product  
**GT:** Green Transition  
**IPA:** Instrument for Pre-Accession Assistance  
**IPARD:** Instrument Pre-accession Assistance for Rural Development  
**JGT:** Just Green Transition  
**NECP:** National Energy and Climate Plan  
**POLITO:** Politecnico di Torino  
**RES:** Renewable Energy Sources  
**SRA:** Scientific Research Agenda  
**UB-GEF:** University of Belgrade – Faculty of Geography  
**UN:** United Nations  
**WB:** Western Balkan  
**WBC:** Western Balkan Countries  
**WP:** Work Packages  
**WSH:** Workshop



## 1. Overview of GreenFORCE

GreenFORCE, is an EU-Horizon funded project, aiming at fostering excellence in the "Western Balkans' green transition" scientific research and innovation of 3 research performing organizations, as a means to enhancing their research profile, strengthening research and management capacities of their staff, and contributing to convergence between Western Balkans (WB) and EU research capacities.

The aim of the twinning initiative is to work closely to produce territorial knowledge through exploratory research and institutional learning; transfer and exchange knowledge among partner organizations through applying the knowledge management cycle; and engage in networking for sharing, cross-fertilizing and amplifying knowledge at the societal level. Ultimately, the ambition is to transcend from individual learning to enabling institutional learning, making sure that research and research management practices become institutionalized within the recipient organizations.

The objectives of GreenFORCE is to enhance the research profile of the WB partner organizations ( Co-PLAN; UB-GEF; CEA; POLIS ) ; while strengthening research and management capacities of their staff, and contributing to convergence between Western Balkans (WB) and EU research capacities, as well as to wider policy initiatives for the WB region.

The GreenFORCE project is structured into 5 main Work packages and an additional work package of ethics, as shown below:

**WP1:** Project Management and Coordination

**WP2:** Strengthen the organizational and institutional capacities of WB partners to carry out research and increase the policy relevance of research outputs

**WP3:** Enhance research skills & mainstream 'WB green transition' into teaching

**WP4:** Research on impacts and cost of green transition in the WB

**WP5:** Dissemination, communication, exploitation and sustainability

**WP6:** Ethics

### 1.1 Co-Design Workshops

The study of the effects and costs of green transition in the Western Balkans is one of the key goals of the GreenFORCE project. In this framework, two co-design workshops were organized to investigate the readiness/potential of societal actors (business, academics, policy makers, civic society) throughout the green transition process, and to provide a framework for ongoing monitoring of impacts and costs.

The main objective of the Co-design workshops was to support the conceptualization of Green Transition in the Western Balkans, from a policy, social-economic, spatial, scientific and technological point of view, through a back-casting scenario analysis.

**The first co-design workshop** provided information and expertise about the context, the difficulties, and how regional stakeholders address issues related to the lack of policies related to green transition in the Western Balkans.



The second co-design workshop’s goal was to stimulate dialogue on green transition research using three case studies from Serbia, North Macedonia, and Albania as a starting point.

Main findings from these workshops will contribute to the *Report on Conceptualization of Green Transition in the Western Balkans (D4.1)*, which aims to provide an overview of how Green Transition may be conceptualised in the Western Balkans, particularly with respect to the initial preparatory phase, the role of the various societal actors, their cooperation to achieve the ambition, and finally impacts (costs and benefits) that the transition will have on the society.

The first two co-design WSHs are linked to the scope and focus of the research, helping to clarify the context, the challenges and how regional stakeholders visualise the future and pathways for the green transition. Two other co-design WSHs will be focused on discussing a framework for continuous monitoring and assessment of the impacts of green transition in the WB, and are expected to be organized during 2024.

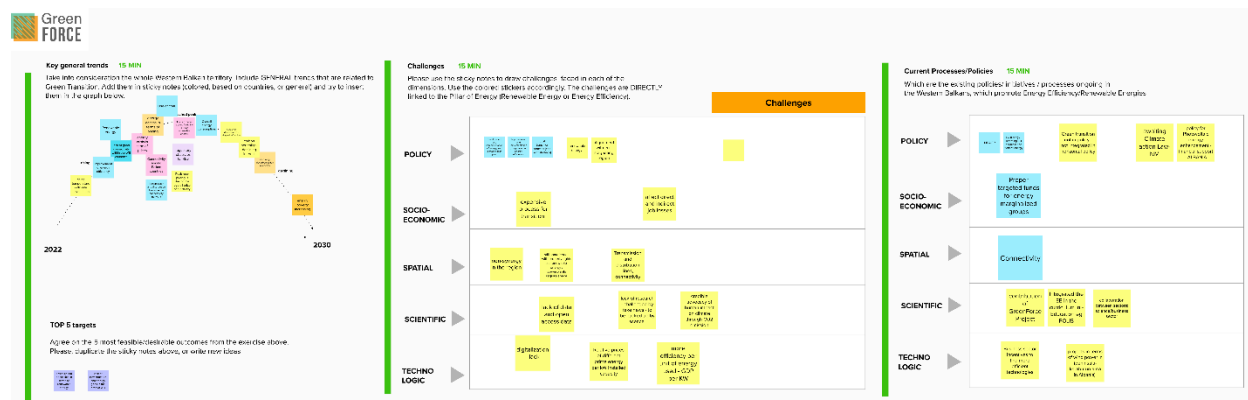
## 2. First Co-DESIGN Workshop

The aim of the first co-design workshop was to support the conceptualization of Green Transition in the Western Balkans, from a policy, social-economic, spatial, scientific and technological point of view, through a back-casting scenario analysis.

About 50 societal actors were invited from the policy, civil society, industry and academia sectors, to contribute to this interactive process of visioning. From a methodological standpoint, the workshop was divided into 2 parts: plenary session, which focused on setting the scene and feeding on inspiration from international cases; and the second part, which aimed at addressing challenges and opportunities of green transition focusing on 5 thematic dimensions whereby the participants were divided into groups: Climate; Depollution; Circular Economy; Energy Efficiency; and Territorial Planning.

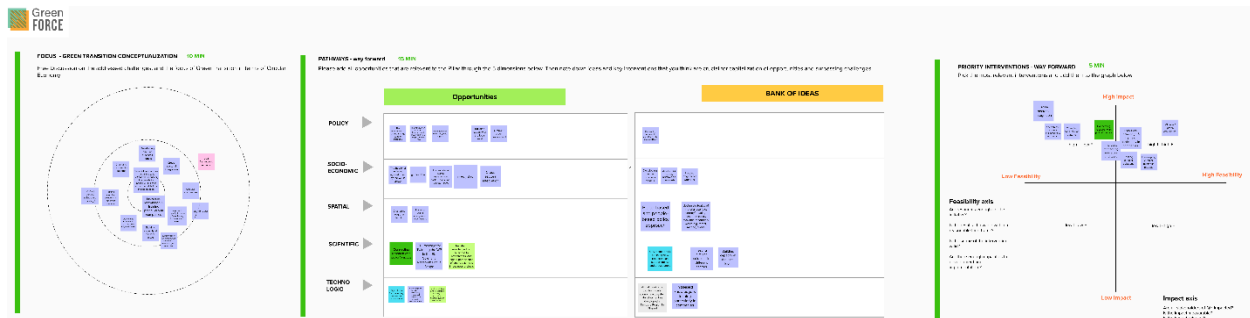
For each thematic group, 2 rounds of group work were organized through the Mural Platform. The first round aimed at opening a discussion about key general trends, relevant challenges and initiatives in place for key dimensions (policy, socio-economic, spatial, scientific, technological) in reference to the group topic. These were later presented to the plenary in a short overview.

Figure 1. Excerpt from round 1 of discussions for thematic groups



In the second round of group work, the main focus was to have an open discussion about green transition conceptualization and the way forward in the region. This session identified opportunities that can be translated into implementable ideas in the region. In the final stage of the session, those ideas were ranked according to their impact and feasibility rate. After the conclusion of the session, each thematic group briefly presented the process of conceptualization to all the participants in the workshop.

**Figure 2. Excerpt from round 2 of discussions for thematic groups**



The 1<sup>st</sup> co-design workshop was organized on 8 November 2022. A detailed agenda and input from the workshop can be found in Annexes A1-A3.

## 2.1. Highlights from the plenary session

Rodion Gjoka, researcher and environmental expert at Co-PLAN, briefly presented the macro situation regarding green transition, mainly focusing on the EU Green Deal and the Green Agenda for Western Balkan Countries. The issue is tackling climate change, which effects are becoming even more present all around the world with inter-sectorial domino effects. One important moment to mark the path forward was the October 2021 UN General Assembly recognizing that a clean, healthy and sustainable environment is a human right, calling thus for the first time to all member states to “SCALE UP EFFORTS”. It must be emphasized that on a global scale 90% of communities deprived of a healthy and fertile environment are not the source nor the cause of the problem.

On the other hand, on November 2020, following the EU Green Deal, all the leaders from Western Balkans, gathered under the framework of the Berlin Process in Sofia Bulgaria, acknowledge that the EU Green Deal will be the region's new growth strategy, today referred to as Sofia Declaration. This declaration implies: decarbonization; Circular Economy; Depollution; Sustainable food system and rural development; and Biodiversity protection and ecosystem restoration. Each of those pillars requires a high level of effort from each country of the region, in terms of political will, policy, strategy, implementation, integration, etc. Also, there is a notable difference between the EU Green Deal and the WB Green Agenda due to the overall status of the region, EU alignment and implementation. Identifying priorities, challenges and opportunities for green transition in the WBC is the main focus of this workshop.

Carlos Tapia, senior researcher at Nordregio, presented a contribution focusing on the conceptual building block of a just green transition and the most vulnerable social groups that will be affected by the transition. Initially, the expression 'just transition' was formalised as a set of corrective and compensatory measures, and then increasingly acquired a more strategic and preventive nature. The notion of a just green transition is enabled by three conceptual blocks, which are social justice ('just'), environmental sustainability ('green') and socio-technical change



(‘transition’). Each of those conceptual blocks has its challenges that need to be addressed for a successful transition.

The social impacts of climate policies on the most vulnerable social groups (unemployed, those at risk of unemployment, older adults, children and persons with disabilities) are mainly in terms of household finances and general behaviour. The potential negative impacts of the transition are in terms of territorial inequalities, from a distribution point of view, and population concentration, with direct, indirect and transferable impacts. To mitigate those potential problems, a higher awareness is needed through the participation and engagement of all groups of society in climate debates and coordination of mitigation policies with sectoral policies. This is the only way to also respond to false or misleading debates or statements about the just green transition.

## 2.2 Summary of thematic groups work

### 2.2.1 Climate – Group discussion

**Participants and affiliations:** Rodion Gjoka (Co-PLAN) - Moderator; Ognjenka Zrilić (LIR Evolution); Bojan Trpevski (Macedonian Young Lawyers Association); Siniša Trkulja (Ministry of Construction, Transport and Infrastructure of Serbia); Boran Ivanoski (NALAS); Mihallaq Qirjo (REC Albania); Rea Muka (Co-PLAN); Ana Marija Petrovska (CEA); Aida Shaneh (POLITO).

During the discussion regarding the key general trends in the macro-region of the Western Balkans, the group focused on the five pillars of the green agenda, which are: Depollution; Decarbonization; Biodiversity and Habitats; Climate Framework; and Circular Economy. Through active dialogue of the participants, those five pillars were placed on the respective graph, by importance in the time interval of 2022-2030. By placing the key trends in the graph, and the factors that influence them, a big picture of the situation of green transition came along. Mainly, every country in the region is halfway in the preparation of the climate framework, including law, policy and strategy. The implementation component is lacking in all countries, further slowing down the preparation of the economy for transition. There are a few sporadic and isolated practices regarding the circular economy and energy efficiency in all countries, but with a small impact. Depollution seems to be the key trend that has the highest interest in the region, strongly connected with urban mobility to improve the quality of life in urban areas. On the other hand, decarbonization seems to be a more delicate topic, since a few countries strongly rely on it for their economy. Biodiversity and Habitats are one of the trends that are seeing a decrease in focus since in some countries of the region their borders are shrinking in favour of strategic development.

**Table 1: Challenges and Current Initiatives, Climate**

Dimension	Challenges	Current Initiatives
Policy	<ul style="list-style-type: none"> <li>- The process of implementation of policy in general and in the context of the climate framework</li> <li>- The legal framework is not fully aligned yet</li> <li>- There is a lack of capacities and finances</li> </ul>	<ul style="list-style-type: none"> <li>- Climate Strategy and Framework</li> <li>- Law on climate change (Serbia)</li> <li>- National Strategy (Albania)</li> <li>- Energy and climate plan</li> <li>- Long-term Strategy on Climate Action and Action Plan</li> <li>- Regional waste management</li> </ul>
Socio-Economic	<ul style="list-style-type: none"> <li>- The high cost of decarbonization and green transition in general</li> </ul>	<ul style="list-style-type: none"> <li>- Subsidy on Renewables and Energy Efficiency</li> </ul>



	<ul style="list-style-type: none"> <li>- The loss of jobs in carbon intensive sectors</li> <li>- The challenge of raising awareness and changing habits in the population</li> </ul>	
Spatial	<ul style="list-style-type: none"> <li>- The challenge of integrating climate change in spatial and urban plans as a cross-cutting topic</li> </ul>	<ul style="list-style-type: none"> <li>- Climate change in spatial planning as a cross-cutting topic in some countries</li> </ul>
Scientific	<ul style="list-style-type: none"> <li>- In the region there is a lack of basic data in general</li> <li>- Limited research regarding green transition related topics</li> <li>- The phenomena of brain drain always present in the region</li> </ul>	<ul style="list-style-type: none"> <li>- Project calls from international partners</li> </ul>
Technologic	<ul style="list-style-type: none"> <li>- Lack of human and technical capacities in the area</li> </ul>	<ul style="list-style-type: none"> <li>- The use of spatial programs for the collection of data.</li> </ul>

Regarding the policy dimension, the preparation of the climate framework and its alignment has begun in the region, a fact supported by the drafted laws and strategies related to the broad topic of the green transition. The main challenge regarding the dimension of policy is regarding the implementation of those policies, the peace of policy alignment in each country and the lack of human and financial capacities. Those challenges are present in every Western Balkan Country, in different degrees.

In the socio-economic dimension, the primary concern is the high cost of building up a net-zero economic system, since a few countries in the region rely heavily on carbon-based industries, which at the same time provide a considerable amount of jobs for the population. Another concern, relating to the social aspect of green transition, is rising awareness among the population regarding the benefits and necessity of this transition, as to work together to change the current habits. In this regard, there are very few processes implemented in this dimension to facilitate the transition, which mainly concerns energy efficiency in buildings (with a focus on urban areas and new development) and renewable energy possibilities.

In the spatial dimension, the main challenge concerns the integration of climate change components in the process of territorial, spatial and urban planning. In some countries, this challenge is being addressed by including climate change as a cross-cutting topic in important strategic planning documents. Also, in the spatial spectrum, the main component that has the most momentum at the moment is transportation, which is being addressed by the mobility urban plans in most countries of the region.

Regarding the scientific dimension, the main challenges concern the lack of available general data to capitalize upon for further deepening the research on green transition-related topics. Hence research about relevant topics in the context of green transition is quite limited in the region, and presently, this is deepened by the phenomena of brain drain, always present in WBC. As such, progress in this dimension does not come from within the region, but from outside, with project calls from the EU and other international actors.

The technological dimension is the one that is the furthest behind in the region. The main reason for it is the extreme lack of human and technical capacities in fields related to technologies, especially those with a focus on green transition components. Practices exist in each country, but they are mostly isolated cases in the private sector. In the cases of research or policy, advanced technological means are used mainly for the generation, collection of data and monitoring process.



The main focus of the green transition on a macro level, declared by the EU, is Climate Neutrality by 2050. This wide and long-term goal set by the EU aims to reshape the most prominent sectors which are directly responsible for climate change. Those sectors are housing, industry, mobility, farming and energy. Exactly to reshape those sectors a lot of theoretical and practical concepts have been created to move toward a resilient and sustainable society. Some of those alternative solutions or concepts are: alternative fuels such as renewables, and electrification to address the problem of energy poverty; climate taxing as a means to create funds to be used concerning green transition; nature-based solutions; climate resilience; etc.

**Table 2: Opportunities and Ideas, Climate**

Dimension	Opportunities	Bank of Ideas (ranked)
Policy	<ul style="list-style-type: none"> <li>- Integration of policy sectors</li> <li>- Climate change framework is in progress in the region</li> <li>- Adaptation policies in agriculture and biodiversity</li> <li>- Introduce energy poverty concept as a ground for social benefits</li> </ul>	<ul style="list-style-type: none"> <li>- Joint decarbonization monitoring system</li> <li>- Common framework for WBC decarbonization objectives and roadmap</li> <li>- Inventorization of losses and damages from climate change</li> </ul>
Socio-Economic	<ul style="list-style-type: none"> <li>- New jobs and skill sets</li> <li>- Youth employment</li> <li>- Isolated cases of circular economy</li> <li>- Youth activism</li> </ul>	<ul style="list-style-type: none"> <li>- Integrating circular economy practices in the curricula of professional schools in the region</li> <li>- Joint strategy to address energy poverty</li> <li>- Creating a way to access EU carbon trading system</li> </ul>
Spatial	<ul style="list-style-type: none"> <li>- Integration of climate change components in spatial planning</li> <li>- The drafting of spatial plans in different levels of government and sectors</li> <li>- Geographical location for the use of renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>- Integrating the climate dimension in the practice of planning as an active a dynamic component</li> <li>- Disaster risk reduction monitoring system</li> </ul>
Scientific	<ul style="list-style-type: none"> <li>- The number of projects addressing climate change components are rising</li> <li>- It is a new research era in climate change</li> </ul>	<ul style="list-style-type: none"> <li>- Anchoring projects that aim to produce data about green transition components</li> </ul>
Technologic	<ul style="list-style-type: none"> <li>- Adaptive Sectorial Plans with innovative practices such as NBS, energy efficiency, ecosystem services, etc</li> <li>- Electrification of public transportation</li> <li>- Monitoring systems</li> <li>- Social media platforms to facilitate communication with a large number of people</li> </ul>	<ul style="list-style-type: none"> <li>- Monitoring system of transportation</li> <li>- Achieving net-o urban mobility, at least regarding public transportation</li> <li>- Integrating alternative fuels for industry</li> </ul>

In the final process of envisioning the way forward in terms of climate change and green transition, the ideas that were evaluated to have a high impact and a high feasibility rate are the ones that are related to the energy sector,



or the socio-economic dimension. Exploring and implementing alternative flues would reshape every sector that directly contributes to the climate change phenomena. Also, another idea that was regarded with a high impact and high feasibility rate was to create a monitoring system where to inventorize the losses and damages, addressing also the component of disaster risk management to mitigate the consequences of climate change. Having a common framework in the WBC for the decarbonization objectives and roadmap was deemed to have a high impact on the region and a medium feasibility rate.

### 2.2.2 Energy – Group discussion

**Participants and affiliations:** Marjan Nikolov (CEA) Moderator; Vesna Garvanlivea (CEA); Fiona Imami (Co-PLAN); Klodjan Xhexhi (Polis University).

During the first discussion, about general key trends, the main focus was the prime energy source for electricity generation. Trends identified as rising accounted as a starting point for the rise in global temperature, which demands an improvement in energy efficiency and a shift in the energy sector to focus more on renewable energy sources. All those trends indicate a rising in awareness about the connectivity of the WBC in terms of transmission and distribution lines. As negative rising trends, we have the rising in global electricity prices which connects with the concept of energy poverty. As a trend that has reached its peak was identified the regulatory obstacles and lack of flexibility to shift towards renewable energy sources, also an unfair energy market generating wrong price signals. The declining trends identified oppose the targets of green transition, being declining interest in carbon neutrality and in the decarbonization of energy generation, which indicates stagnation in economic development.

**Table 3: Challenges and Current Initiatives, Energy**

Dimension	Challenges	Current Initiatives
Policy	<ul style="list-style-type: none"> <li>- Development and implementation of energy and climate action plan</li> <li>- Improvement of the energy efficiency legislation</li> <li>- Just transition process needs impulse</li> <li>- Alignment with EU to boost the stagnating region</li> </ul>	<ul style="list-style-type: none"> <li>- NECP</li> <li>- EU4energy-adopting EU acquits</li> <li>- Green transition is not integrated into the horizontal policies</li> <li>- Climate action law in need</li> <li>- Photovoltaics needs better access to finance and maybe a fund instrument</li> </ul>
Socio-Economic	<ul style="list-style-type: none"> <li>- Expensive transition process needs a definition of gainers and losers</li> </ul>	<ul style="list-style-type: none"> <li>- Proper targeted fund for marginalized groups to address the energy poverty</li> </ul>
Spatial	<ul style="list-style-type: none"> <li>- Lack of synergy, coordination and cooperation in the region</li> <li>- Property rights legal obstacles for RES</li> <li>- Transmission and distribution lines are costly</li> </ul>	<ul style="list-style-type: none"> <li>- Connectivity with transmission and distribution lines</li> </ul>



Scientific	<ul style="list-style-type: none"> <li>- Lack of data and open access tools</li> <li>- Lack of proper research to raise awareness and to fight fake news and back up the scientific findings about the climate change.</li> <li>- Need for credible proper advocacy about the human impact on climate change</li> </ul>	<ul style="list-style-type: none"> <li>- GreenFORCE project is already contributing</li> <li>- EE curricula should be integrated in the formal education (e.g., POLIS)</li> <li>- Better collaboration between education and business sector</li> </ul>
Technologic	<ul style="list-style-type: none"> <li>- Lack of digitization in the field</li> <li>- There are relative prices for electricity generation depending on the different technology but this is not transferred as a price signal on the electricity market and this created market deviations and overpricing that is hurting expensive the innovation and investment market</li> <li>- Need for increased energy efficiency (energy unit/GDP in WB should decline relative to EU's energy unit/GDP)</li> </ul>	<ul style="list-style-type: none"> <li>- Incentives for business sector to innovate more efficient technologies</li> <li>- Coastal wind power plants in WB countries</li> </ul>

In the policy dimension, the main challenges identified that the region is facing in terms of energy are the alignment with EU directives which is necessary to give the right impulse to a just transition in energy, by improving the legislation about energy efficiency and developing, implementing the energy and climate action plan. Almost in all the countries of the region, this process has started at different paces, with the drafting of the law on climate change and relevant strategies for the sector of energy, but with very limited implementation.

Regarding the socio-economic dimension, the identified challenge is the high cost of the transition with an emphasis on the actors that need to be involved in this process. There are no relevant practices to be mentioned at the moment, since the practices initiated in terms of energy are isolated cases as long as a consolidated market for renewable energy does not exist in the WBC, further deepening the problem of energy poverty.

The challenges identified in the scientific dimension relate to the lack of accessible data to perform proper research in favour of raising awareness about the impact of human activity on climate change. Initiatives identified relate to projects like GreenFORCE, the integration of energy efficiency in the education curricula and an improvement of collaboration between the education and business sector.

Regarding the technologic dimension, the challenges mentioned relating to the technologies and means that are used for energy production and how they do not reflect properly on the market creating division and overpricing in most cases. As such increasing energy efficiency in the region is quite a challenge. Initiatives related to the innovation of the business sector, but on small scale, and the use of coastal wind power plants in some WBC.

During the conceptualization phase of the green transition, in terms of the energy sector, the main focus was agreed to be the diversification of energy toward renewable energy sources and implementing transmission lines with fewer losses. To achieve this goal, it is necessary the development of proper financial instruments for energy transition, tackle the competition for scarce resources and enhance scientific research in the area of energy.



**Table 4: Opportunities and Ideas, Energy**

Dimension	Opportunities	Bank of Ideas (ranked)
Policy	- Balkan process and Open Balkan	- Balkan process and Open Balkan - More affordable clean energy – long-term
Socio-Economic	- EU funds: IPA3, WBIF - More affordable clean energy - Timely process for transitioning labour force	- Timely process for transitioning labour - EU funds, IPA 2, WB investment funds
Spatial	- Insolation for solar power plants - Coastal wind power plants	- Coastal wind energy - Insolation for solar power plants
Scientific	- Horizon and COST projects of EU	- Horizon projects
Technologic	- Liquid hydrogen - Mobile small nuclear power plants	- Technology development – hydropower system, liquid hydrogen, mobile nuclear power

In the envisioning phase of the way forward the ideas of the different dimensions shown in the table above, were placed in the respective graph to better understand the level of impact and feasibility they have in the context of energy for the WB region. The ideas that have the highest rate of impact and feasibility are in the scientific dimension and socio-economic dimension, concerning the anchoring of projects and investments from international programmes in the context of energy. Also, from a spatial point of view, solar power plants are seen to be quite relevant for the region, a bit less coastal wind power energy plants since it has a lower feasibility rate. Ideas that were seen to have a high impact but a low feasibility rate are in the dimension of policy, technology and socio-economy. Such ideas are about the alternative source or means of energy generation, the process of labour transition from fossil fuel-oriented energy to renewable-oriented energy and implementing more affordable clean energy in the long term.

### 2.2.3 Depollution – Group discussion

**Participants and affiliations:** Marija Jeftic (UBGEF) - Moderator; Medina Garić (LIR Evolution); Azra Vukovic (NGO Green Home); Tijana Živanović Milić (Ministry of Construction, Transport and Infrastructure); Zora Zivanovic (UBGEF); Rudina Toto (Co-PLAN); Igor Mitevski (CEA)

During the discussion about general key trends, strongly related to the pillar of depollution in terms of green transition, a stagnation of political will promoting green transition is evident in the region. In this accord, some rising trends identified are the unstable political situation in the WBC, which contributes to the lack of laws and strategies regarding depollution. Even in the cases where this process has started in the policy sphere, the implementation is poor, with a lack of reporting about emissions even when it is an obligation to do so, contributing this way to a lack of data to perform proper research and analysis. Hence, it is business as usual in the relevant sectors that directly contribute to the problem at hand, such as agriculture and industry. In urban areas, because of densification and overpopulation, the air quality is declining, while in more remote areas cities are shrinking. In the long term, as declining trends, it is evident that the understanding of the importance of green transition will rise,



promoting collaboration and communication among institutions, a trend that is evident even now where cooperation among academia and government is improving. Also, better management of waste and an increase in circular economy practices is foreseen.

**Table 5: Challenges and Current Initiatives, Depollution**

Dimension	Challenges	Current Initiatives
Policy	<ul style="list-style-type: none"> <li>- Poor implementation of the law and strategies on the field</li> <li>- Stagnation of the green politics-green transition</li> <li>- Lack of data regarding air pollution</li> <li>- New school programs for new jobs</li> <li>- Institutional coordination and cooperation are poor</li> <li>- Monitoring of pollution done annually but for few points and not continuous</li> <li>- Funding for monitoring is insufficient</li> </ul>	<ul style="list-style-type: none"> <li>- Pollution monitoring</li> <li>- Climate policies, strategies and laws</li> <li>- No transition plans</li> </ul>
Socio-Economic	<ul style="list-style-type: none"> <li>- New jobs, new incomes</li> <li>- Health impacts from pollution of air, water and soil</li> </ul>	<ul style="list-style-type: none"> <li>- Circular economy projects</li> </ul>
Spatial	<ul style="list-style-type: none"> <li>- Urbanisation in central areas and shrinking cities in more remote ones</li> <li>- Less areas of disposed waste, more circular economy practices</li> </ul>	
Scientific	<ul style="list-style-type: none"> <li>- Low or poor knowledge on the impacts of socio-economic activities on ecosystem service</li> <li>- Lack of data regarding air pollution</li> <li>- Coordination between academia and government yet to improve</li> </ul>	
Technologic	<ul style="list-style-type: none"> <li>- Transfer of knowledge, practices and technological solutions from more developed countries</li> <li>- Introducing the electric mobility</li> <li>- Still end of the pipe solutions to pollution</li> </ul>	<ul style="list-style-type: none"> <li>- Waste water treatment plants</li> <li>- Circular economy projects</li> <li>- Cement factories, industry trying to diversify energy sources</li> </ul>

Regarding the dimension of policy, the most prominent challenges relate to the stagnation of political will in terms of the green transition, contributing to a slow transition process in the region and poor implementation of laws and strategies. The monitoring system of pollution is quite limited and has insufficient funds, contributing to a lack of data about pollution. A relevant challenge is about creating new school programs to eventually create new job opportunities. Regarding initiatives in this dimension, the process of drafting policies, laws and strategies in terms of climate has started and an initiative about monitoring pollution, which is an annual process.

For the socio-economic dimension, the biggest challenge refers to the process of creating new job opportunities and income sources in terms of the green transition. Also very relevant are the health issues from the air, water and soil pollution. In this regard, there are very few practices identified, mostly projects about circular economy.



In the spatial dimension, the identified challenges are about the urbanisation rate of cities in central areas, which amplifies the pollution problem, and the shrinking cities in more remote areas. Quite important is also the lack of space for disposing of waste, which can be tackled by promoting more circular economy practices.

In the scientific dimension, one of the challenges identified is the low level of collaboration between academic institutions and government institutions. Also, a lack of data about the levels of pollution is evident in the region, which negatively affects the process of proper research in the field. Without those components, it is difficult to tackle the problem of awareness about the influence of human activity on climate change.

Regarding the technological dimension, the transfer of knowledge about practices and technological solutions from more developed countries is quite a challenge, like introducing the practice of electric mobility and other similar solutions. Initiatives to be mentioned in this context are the attempts of the industry sector to diversify the energy sources, the waste water treatment plants and projects in the field of the circular economy. But those initiatives are quite isolated cases with a small impact on the macro scale.

During the green transition conceptualization phase, the main focus was identified to be the zero-pollution policy necessary to achieve depollution by 2050. As such the awareness and engagement levels of society in the matter will increase and will support the depollution pillar of the green transition. The capacities necessary to enable and implement the just green transition need to be established and strengthened to better implement the needed policies. The economy of the WBC needs to be strengthened to better face the transition, by shifting to 60% renewable energies to minimize air pollution caused by fossil fuels and eradicate the soil pollution caused by obsolete industries and agriculture by 2030.

**Table 6: Opportunities and Ideas, Depollution**

Dimension	Opportunities	Bank of Ideas (ranked)
Policy	<ul style="list-style-type: none"> <li>- IPA, Interreg and other funding that support the just green transition</li> <li>- EU integration process</li> </ul>	<ul style="list-style-type: none"> <li>- Prepare the policy document on green transition and advance with implementation</li> <li>- Establish the institutions to lead the JGT process in each country and regionally</li> <li>- Streamline a program of capacity building for GT in the region – increase the funding absorption rate</li> </ul>
Socio-Economic	<ul style="list-style-type: none"> <li>- The jump to circular practices in various economic sectors by the businesses and communities</li> </ul>	<ul style="list-style-type: none"> <li>- A dedicated fund to implement the green transition in the WBC</li> </ul>
Spatial	<ul style="list-style-type: none"> <li>- Water and natural resources in the region</li> </ul>	<ul style="list-style-type: none"> <li>- Regional partnerships</li> </ul>
Scientific	<ul style="list-style-type: none"> <li>- Horizon projects research</li> <li>- Cost projects and teams</li> </ul>	<ul style="list-style-type: none"> <li>- Continuous water, soil and air quality monitoring at territorial level</li> <li>- Assess ecosystem services for sensitive ecosystems and build strategies to protect them through the participation of quadruple helix stakeholders</li> </ul>
Technologic		<ul style="list-style-type: none"> <li>- Electric mobility</li> </ul>





In the envisioning phase of the way forward, in terms of depollution, the ideas that were evaluated to have high impact and feasibility rate are part of the policy dimension. It seems imperative that policy documents, capacity building, establishing the responsible institutions to lead the process, and creating a dedicated fund for a just green transition are necessary for the region to achieve the main objectives of depollution by 2050. Creating strong regional partnerships is also seen in high regard, followed by creating a monitoring system to control the levels of pollution in soil, water and air. Ideas that have a high impact rate but low feasibility are in the scientific and technological dimensions. Such ideas are electric mobility and assessing ecosystem services for sensitive areas and building strategies to protect them through the participation of quadruple helix stakeholders.

#### 2.2.4 Circular Economy – Group discussion

**Participants and affiliations:** Alberto Giacometti (Nordregio) - Moderator; Lisa Fredriksson (Embassy of Sweden); Marjan Marjanovic (University of Banja Luka); Kristina Cvejanov (Green loop); John Moodie (Nordregio); Anila Gjika (Co-PLAN); Yahya Shaker (POLITO)

During the discussion about general key trends, it was pointed out as a rising trend the integration to the EU of the WBC, promoting the process of regionalisation and building regional markets, and alleviating the problem of political transition in each country. On the other hand, the problem of depopulation in the region is worsening, affecting especially the youth and causing brain drain in the region. In the energy sector, even though we have a lack of capacities the sector and great challenges in terms of energy supply and pollution, there are signs of improvement regarding renewable energy sources, waste treatment and regional cooperation. Thus, decreasing the dependence on coal in the near future the region. The most feasible and desirable outcomes from the discussion of the trends were: creating a common regional market; energy security and cooperation; tackling the problem of brain drain in the region; and EU integration.

**Table 7: Challenges and Current Initiatives, Circular Economy**

Dimension	Challenges	Current Initiatives
Policy	<ul style="list-style-type: none"> <li>- No policy related to circular economy</li> <li>- The strategic and policy framework is weak, and implementation is lagging behind</li> <li>- Lack of government capacity and will to steer drive the process</li> <li>- Circular economy is partly implemented in regulation, but there is bad horizontal and vertical integration and implementation, lack of control, insufficient financial mechanisms</li> <li>- Limited practical policy of cross-sector integration</li> <li>- Lack of instruments to enforce policy</li> <li>- Weak institutions</li> <li>- Politically contested decision-making</li> <li>- Weak operational and administrative capacity of the inspection bodies</li> </ul>	<ul style="list-style-type: none"> <li>- The IPARD programme is a good opportunity for introducing green economy and circular economy in agribusiness</li> <li>- Strong focus on move to bio-based resources in the Nordic countries</li> <li>- EU action plan areas: Circular economy, plastics, waste, raw materials</li> </ul>



Socio-Economic	<ul style="list-style-type: none"> <li>- Circular economy is perceived as an expense rather than an opportunity</li> <li>- Lack of knowledge on circular economy</li> <li>- Strong dependence on virgin resources</li> <li>- Cultural barriers, lack of recycling culture</li> <li>- Lack of incentives</li> <li>- No skills and training in circular processes</li> <li>- Lack of financial resources</li> <li>- Weak civil society domain</li> </ul>	
Spatial	<ul style="list-style-type: none"> <li>- Fragmented territory and weak coordination</li> <li>- Lack of governance capacity</li> <li>- Centralised governance system</li> <li>- Too much focus on geographic proximity</li> <li>- Challenges to integrate waste facilities into special plans, the resistance of citizens</li> </ul>	<ul style="list-style-type: none"> <li>- EU supported networks and exchange of best practices</li> </ul>
Scientific	<ul style="list-style-type: none"> <li>- Low knowledge and weak cooperation between scientific research institutions and business community</li> <li>- Limited transfer of knowledge from research to policy</li> <li>- Lack of data and indicators</li> <li>- No educational incentives targeting young adults into researching WB circular economy integration</li> </ul>	
Technologic	<ul style="list-style-type: none"> <li>- Lack of access to funding for technology advancement</li> <li>- Modernisation of air and water monitoring systems</li> <li>- Lack of practical tools to connect industry and businesses</li> <li>- the academic community has limited knowledge of new technologies</li> </ul>	<ul style="list-style-type: none"> <li>- Some practices and research in alternative fuel use in the production of cement industry</li> </ul>

Regarding the policy dimension, the picture is clear, there is a lack of political will to steer the process toward a circular economy. As such there are no laws, policies, strategies and incentives on the matter, indicating a lack of capacities and funding for a circular economy. Even in the cases where the process of integrating circular economy into policy, the responsible institutions are weak and the implementation or enforcement process is lacking behind. In this context, there are some good international initiatives like the IPARD programme that focuses on introducing a green and circular economy in agribusiness, and EU action plans about related topics.

In the socio-economic dimension, it is evident that there is a lack of knowledge, skill and motivation toward a circular economy. The process of transition is mostly seen as an expense rather than an opportunity by the relevant sectors. Also, the cultural barriers are not helping the process of transition because of a low level of awareness and a weak civil society domain. Practices or initiatives are mostly isolated cases of circular economy with low impact.



Regarding the spatial dimension, the territory is quite fragmented deepening the problem of collaboration between institutions in terms of improving waste management and integration of circular economy practices. Initiatives tackling those problems come mostly from the European level and the exchange of best practices.

In the scientific dimension, there is a low cooperation level between academia and business communities limiting the transfer of knowledge about the best practices in terms of a circular economy. A weak collaboration is noticeable also between academia and governance indicating a low transfer of knowledge from policy to research. The lack of data and measurable indicators brings limited research toward integrating circular economy in the WBC, and the educational system.

In the context of the technologic dimension, there is limited knowledge about new technologies that can be implemented to facilitate the transition, this is also due to a lack of funding and incentives for technological advancement. On the other hand, the monitoring system that is in use to measure pollution levels in the air, water and soil are quite behind, in terms of technology. There are some practices and research in terms of alternative fuels in the sector of the cement industry.

During the free discussion about the green transition conceptualization in terms of circular economy, the main focus was agreed to be on building financial mechanisms to implement circular economy on the principle of producer's responsibility and increasing knowledge and training about the circular economy, particularly in companies. To achieve this objective, it is necessary to build capacity at the local level and implement circular economy procurement, test circular solutions in different sectors, to build sustainable circular business models, which will positively affect consumption patterns. It is imperative to improve also the monitoring system to gather data about the circular economy.

**Table 8: Opportunities and Ideas, Circular Economy**

Dimension	Opportunities	Bank of Ideas (ranked)
Policy	<ul style="list-style-type: none"> <li>- The introduction of the EU Energy Support Package</li> <li>- The introduction of the EU Economic and Investment Plan (EIP)</li> <li>- Implementation of EU recycling targets</li> <li>- Building capacity at the local level</li> <li>- Circular, green procurement</li> </ul>	<ul style="list-style-type: none"> <li>- Developing instruments to implement circular economy, e.g., City Deals, Regional Deals</li> </ul>
Socio-Economic	<ul style="list-style-type: none"> <li>- The regional initiative agreed upon by WB</li> <li>- Gather data</li> <li>- Just transfer of waste management costs – consumer (polluter) pays</li> <li>- New jobs</li> <li>- Cross-sectorial integration</li> </ul>	<ul style="list-style-type: none"> <li>- Developing circular business models</li> <li>- Develop civil society initiatives e.g., zero waste</li> <li>- Funding programmes WBIF, IF</li> </ul>
Spatial	<ul style="list-style-type: none"> <li>- Clustering regional planning</li> <li>- Planning waste management infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>- Space based and people-based policy approach</li> <li>- Design strategies of material use based on locally available resources, waste</li> </ul>



Scientific	<ul style="list-style-type: none"> <li>- Connecting research with policy and practice</li> <li>- EU package for twinning the WB in the EU scientific research focus scope</li> <li>- Transfer of knowledge from business to research and higher participation of young scientific in business projects</li> </ul>	<ul style="list-style-type: none"> <li>- SRA theme on circular economy outlining how research can support policy and practitioners</li> <li>- Testing circular solutions in different sectors</li> <li>- Building capacity at local level</li> </ul>
Technologic	<ul style="list-style-type: none"> <li>- Digital tools for connecting business and industries</li> <li>- EU package for investing in diversifying energy tech supplies and electricity interconnectors</li> <li>- Implementation BAT standards in the design of technology, financial support to innovation</li> </ul>	<ul style="list-style-type: none"> <li>- Digital monitoring tool for circular economy ecosystems development as developed in Tempere Region in Finland</li> <li>- Increased knowledge and training particularly in companies</li> </ul>

During the discussion of envisioning the way forward, the ideas that were identified to have a high impact and feasibility rate are part of different influential dimensions, starting with the implementation of circular or green procurement in the region. By implementing a financial mechanism, it is possible to build sustainable circular business models by testing circular economy practices in different sectors. Also, it would facilitate the process of increasing knowledge and training in companies that are directly affected by circular economy policies. With a high impact rate but medium feasibility rate are ideas about improving and implementing a monitoring system dedicated to circular economy and connecting research with policy and practice. On the other hand, with a low feasibility rate but high impact, we have ideas concerning the cross-sectorial integration of circular economy concepts and changing consumption patterns.

### 2.2.5 Territorial Planning – Group discussion

**Participants and affiliations:** Erblin Berisha (POLITO) - Moderator; Irma Muhovic (NGO MES); Darko Blinkov (State Environmental Inspectorate); Ana Nikolov (Institute for international and cross border cooperation); Vojislav Jovic (Sigurne staze NGO); Besjana Qaja (AKPT); Giancarlo Cotella (POLITO); Kejt Dhrami (Co-PLAN); Branko Protić (CEA).

During the discussion about key general trends, with a focus on territorial planning, the rising trends identified are spatial inequality and population trends. While the population in important urban areas is densifying, there is a depopulation in rural ones, influencing access to services. Since the vulnerability of coastal areas to climate change is rising, the social responsibility toward the territory is improving. In some countries, not just in the WBC, the shares of renewable energy are growing. Trends that have potentially reached their peak are the attention toward informal development by the policy sphere and the Chinese investments in infrastructure projects in the region. As declining trends projects about macro transportation infrastructure were identified.



**Table 9: Challenges and Current Initiatives, Territorial Planning**

Dimension	Challenges	Current Initiatives
Policy	<ul style="list-style-type: none"> <li>- No policy in place for green transition and territorial impact</li> <li>- Fragmentation</li> <li>- Sustainable urban mobility</li> <li>- Recentralization</li> <li>- Lack of national declaration of the WBC green transition agenda</li> </ul>	<ul style="list-style-type: none"> <li>- Impact assessment for green transition in Kosovo</li> <li>- Sustainable urban development strategy in Serbia</li> <li>- Interreg, CBC, IPA CBC programs</li> </ul>
Socio-Economic	<ul style="list-style-type: none"> <li>- Access to services</li> <li>- Recognition of the most affected social groups</li> <li>- No data for social economic impact</li> <li>- Growing social segmentation and inequalities</li> <li>- Devastation of rural areas</li> </ul>	<ul style="list-style-type: none"> <li>- Cross border services</li> </ul>
Spatial	<ul style="list-style-type: none"> <li>- Impact assessment</li> <li>- Growing territorial inequalities</li> <li>- Territorial reforms – restructuring discussion</li> <li>- Cross-border infrastructure lacking – railway system</li> </ul>	<ul style="list-style-type: none"> <li>- Some municipalities have designed Green Action Plans in Albania</li> <li>- Sustainable transport plans in Albania</li> </ul>
Scientific	<ul style="list-style-type: none"> <li>- Research on the impact of green transition in territories is very scarce</li> <li>- Data availability quality and quantity</li> <li>- Lack of financial and human resources</li> <li>- Data observatory</li> <li>- Underrated scientific community</li> </ul>	<ul style="list-style-type: none"> <li>- Joint projects on research</li> </ul>
Technologic	<ul style="list-style-type: none"> <li>- Sustainably implementing new technology</li> <li>- Lack of technological ecosystem</li> <li>- S3 strategy is still under preparation</li> <li>- Digital divide</li> </ul>	<ul style="list-style-type: none"> <li>- Hydro fuels and infrastructure</li> </ul>

In the policy dimension, the challenges identified concern the lack of policy, law and strategies about the green transition. In the context of fragmentation and some cases recentralization, it is difficult to integrate green transition policies such as sustainable urban mobility. In some countries, the process has begun but is lacking in implementation. International programs such as IPA, CBC, Interreg and others create opportunities to stimulate the process.

In the socio-economic dimension, in terms of territorial planning, some of the challenges that the region is facing concern social inequalities regarding the most affected social groups, the access to services and the devastation of rural areas. This problem is deepened by the lack of data which makes it difficult to assess social economic impact. Some existing practices in this dimension are in terms of cross-border services.



Regarding the spatial dimension, is evident that territorial inequalities are growing and it is quite difficult to make an impact assessment. On the regional scale, the cross-border infrastructure is lacking. In some countries, responsible authorities have designed green action plans and sustainable transport plans.

In the scientific dimension, overall, the scientific community is underrated. The lack of data and financial and human resources make it difficult to perform proper research about the impact of green transition in terms of territory. Thanks to international programmes such as Horizon, joint projects on research are happening.

Regarding the technological dimension, the S3 Strategy is still under preparation in some countries of the region, which makes it difficult to implement new technologies sustainably. There are some isolated initiatives in the industry, infrastructure and energy sector to implement new technologies but with a low level of impact.

During the discussion about green transition conceptualization, in terms of territorial planning, the main focus was agreed to be the integrated territorial policies for a just green transition. To achieve this goal a system of open data is necessary to assess the impact on the territory. To mitigate the effects of climate change in the territory the implementation of nature-based solutions in urban and coastal areas is necessary and the use of sustainable tourism practices. To improve cooperation in the region it is important to introduce cross-border integration policies and plans. To achieve those objectives, an improvement of the planning curricula that integrates green transition dimensions is important.

**Table 10: Opportunities and Ideas, Territorial Planning**

Dimension	Opportunities	Bank of Ideas (ranked)
Policy	- Set up new policies dealing with just green transition (regional framework and country perspective)	- Cross-border projects and policies
Socio-Economic	- Relatively young population - 'Heavens' for digital nomads	- Spatial policy for promoting digital nomads
Spatial	- Using cross-border territorial integrated tools	- Nature-based solutions in urban areas against climate effects - Programs for Albergo Diffuso models
Scientific	- Erasmus+ initiatives for cross-border cooperation - Access to international programs for financing research - Open science repositories and initiative (Ni4OS, EOSC)	- Joint study programs for just green transition in WBC - New European Bauhaus calls - Inviting municipalities to participate to EU programmes like Urbact IV and other initiatives
Technologic	- Knowledge transfer	- Regional electric aviation - Hydrogen ports like the CB project

During the discussion about envisioning the way forward, in terms of territorial planning, the ideas that were identified to have a high impact and feasibility rate are part of the research, spatial and policy dimension. Since climate change will majorly affect the population, implementing nature-based solutions in urban areas to tackle its effects is evaluated to have the highest rate of impact and feasibility. The same goes for cross-border policies and projects, which also improve cooperation in the region of the WB. Responding to international opportunities for



research in terms of green transition would alleviate the problem of data availability to better assess the impact of green transition in the territory.

### 3. Second Co-DESIGN Workshop

The second co-design workshop on the Conceptualization of Green Transition was organized on 22 November 2022, with invited stakeholders from all the 6 WB quadruple helix representatives (including participants to the 1<sup>st</sup> Co-Design Workshop)

The focus of the workshop was to catalyze discussions on green transition research, based on the case studies that will be designed by the project partners in the respective territories. The contribution from the discussions would feed to developing a sound, realistic assessment of societal and economic costs and benefits in the process of transitioning to climate-neutral ecosystems.

The outcomes from this co-design workshop will be further articulated to support the Report on Conceptualization of Green Transition in the WB, as well as the individual research case studies

The participants were invited to discuss on their preferred case study, as follows:

***CASE STUDY 1: 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 objective of the research is to assess ex-ante the benefits and costs of transiting to zero emission buildings in a neighborhood of prefabricated residential buildings (1970-1985) in Tirana, Albania. This research shall build upon 4 components that will be simulated: a) Building renovation schemes and modalities to increase Energy efficiency; b) Harvesting solar energy through rooftop photovoltaics. c) Nature based Solutions for Energy Efficiency, Rainwater Harvesting and Depollution. d) Assessment of the social-economic profile of the families, including energy poverty status for households if the case.

***CASE STUDY 2: Assessing the state and impact towards the Just Transition process in the energy sector in North Macedonia – with a territorial focus on the Southwest planning region***

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.

***CASE STUDY 3: 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 analyze 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.



A total of 37 stakeholders participated in the workshop, which was organized in 3 sessions: The first session was dedicated to setting the scene and inspirational case studies on the implementation of Green Transition Policies, as well as a wrap up of the activities of the first co-design workshop. The second session was dedicated to discussions on Just green transition in the WB countries - focusing on the research and case studies. During this session Co-PLAN, CEA and UBGEF presented shortly the research case studies, their objectives, methodology and the expected outcomes. Finally, during the 3<sup>rd</sup> session, all stakeholders were divided into groups to discuss on the e

A detailed list of contributions from the workshop can be found in Annexes B1-B5.

### 3.1 Highlights from Plenary Session

Inspirational presentation on Just Green Transition / City of Lahti, Finland – European Green Capital 2021

*Henna Eskonsipo-Bradshaw, Development Director, City of Lahti*

Inspirational presentation on Just Green Transition / Change agency' - a territorial approach

*Alberto Giacometti, Senior Research Advisor – Nordregio*

### 3.2 Presentation of Case Studies

The 3 research case studies were presented, to serve as basis for the discussion during the group division

Firstly, Rodion Gjoka presented the Albanian research case, summarized as follows:

**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 **objective** of the research is to assess ex-ante the benefits and costs of transiting to zero emission buildings in a neighborhood of prefabricated residential buildings (1970-1985) in Tirana, Albania. This research shall build upon 4 components that will be simulated:

- a) Building renovation schemes and modalities to increase Energy efficiency;
- b) Harvesting solar energy through rooftop photovoltaics.
- c) Nature based Solutions for Energy Efficiency, Rainwater Harvesting and Depollution.
- d) Assessment of the social-economic profile of the families, including energy poverty status for households if the case.

The **outcomes** of the research contribute to:

- a) Informing decision makers, academia, stakeholders and communities on implications and benefits from transiting to Climate Neutrality
- b) Practical scenario or proposals where the principle of just, fair and inclusive transition is applied, indicating its impacts and overall costs, and the desirable societal involvement

#### Research methods:

- a) Theoretical research: (NZEB; Policies such as Climate Neutrality, Just Transition, Depollution, Green Agenda; etc.; similar cases in the EU countries; etc.)
- b) Desk research: (policies, initiatives, legislation, strategies, plans and as-builds, digitalization of all urban form and infrastructure elements, etc.).





- c) Proposal of scenarios of NZEB in the neighborhood.
- d) Site specific field-work – (observation of the residential building stock for its physical properties and relationship to the urban form and landscape in the neighborhood, specific measurements on energy efficiency, microclimate, solar irradiance, air pollution, energy consumption patterns and supply infrastructure, rainwater management, greenery and ecosystem services.).
- e) Household socio-economic survey
- f) Semi-structured interviews with policy/institutional stakeholders on the potential processes of NZEB in the urban area and related cost.
- g) Cost-Benefit Analysis: To have a complete BCA, besides economic/financial impacts we will also assess social and environmental ones (for instance those related to ecosystem services, etc.). This analysis intends to reveal also potential time implications for the society and therefore adjust the recommendations for green-transition policies in time.

**Counterparts:**

Municipality of Tirana  
Energy Efficiency Agency  
National Agency of Territorial Planning  
Ministry of Tourism and Environment  
Ministry of Infrastructure and Energy  
Community of Tirana

Following, Vesna Garvanlieva presented the North Macedonian case:

**Title:** Assessing the state and impact towards the Just Transition process in the energy sector in **North Macedonia** – with a territorial focus on the Southwest planning region

The **objective** of the research is to analyse 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) examine the process development on a national and local level towards the aspiring EU-required Territorial Just Transition Plans (JTP), with a special focus on the Southwest (SW) planning region in North Macedonia where one of the oldest polluter – thermoelectric power plant is located.
- b) be based primarily on 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) identify and assess 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.

**Research methods:**

- a) Desk research - for policy assessment
- b) Economic analysis - Regional statistical input-output analysis and cost benefit analysis
- c) Interviews – semi-structured with national/regional/local policy actors

Finally, the Serbian research case was summarized by Marija Jeftic:



**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 analyze 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.

The **outcomes** of the research contribute to:

- 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 behavioral 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 will indicate a causal connection between the change in the type and method of PCT and the increase in the speed of communication and the quality and traffic safety.
- c) a cost-benefit analysis will link 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) what would be the effects of reducing air pollution in the City on the entire population in terms of exposure

**Research methods:**

- a) Document research - plans, strategies, sectorial studies etc.
- b) Legislative background analyses
- c) Economic analysis - Input-output analysis and cost benefit analysis
- d) Interviews – semi-structured with local policy actors and stakeholders
- e) Field work and survey - close contact with citizens and articulation of their interests

**3.3 Summary of Group work**

**3.3.1 Case study 1 Group Work**

**Topic:** 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.

**Participants:** Kejt Dhrami (Co-PLAN – Moderator); Elena Todella (Polito); Fiona Imami (Co-PLAN); Merita Toska (Co-PLAN); Rudina Toto (Co-PLAN); Besjana Qaja (NTPA); Klodjan Xhexhi (Polis University); Mihallaq Qirjo (REC Albania); Valbona Mazreku (Milieukontakt Albania)

<p>1. Which would be the most suitable/ realistic scenario? Discuss on application of NZEB vs demolition/reconstruction</p>	<p>It is advisable to work with 2 scenarios – one baseline scenario, and a future scenario                  Bussines as usual - the baseline scenario (1)                  NZEB as preferred scenario in view of just green transition (scenario 3)</p>
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	(optional): Demolishing scenario: is it market feasible? Discussion about justice (scenario 2)
2. Which are the technical / legal challenges that may facilitate energy production at community level? What steps need to be taken in this regard?	It is not possible to sell the produced energy back to the national network / limited efficiency
3. What is the expected impact of the proposed intervention to the specific stakeholders (community, local businesses, private sector partners, local and national governance)	The community stakeholders need to be factored into the surveys and focus groups Include also private sector stakeholders: <ul style="list-style-type: none"> <li>• Industries solar panels</li> <li>• Community of developers</li> </ul> Main counterparts: <ul style="list-style-type: none"> <li>• Municipality of Tirana</li> <li>• Ministry of Infrastructure and Energy</li> </ul>
4. Are there any methodological drawbacks? Is there another method / tool that is worth exploring? Please take into consideration the validity, reliability of results; the replicability in similar contexts; and the level of openness and availability of data	Use mixed method approach: <ul style="list-style-type: none"> <li>• Residual market value</li> <li>• Discussing heritage value</li> <li>• Rehousing costs during construction or renovation</li> <li>• Focus groups with 'soft' criteria</li> </ul> Define patterns of combinations (interactions with stakeholders)

The team discussed to implement 2 scenarios due to time constraints and resources. Preferably a third scenario would be added as well.

Scenario 1 is the baseline scenario, aka business as usual. This will be a baseline scenario to serve as background for the impact costs/benefits

Scenario 2 (optional) is the 'Build Anew' approach, which should be based on a mixed method approach: market feasibility of reconstruction; residual market value analysis; heritage value assessment; and rehousing cost during renovation. A case study for Zogu i Zi was defined, therefore will be included in the focus group discussions.

Scenario 3 is the future scenario that will include 'self-efficiency' at neighbourhood level

The main challenge is the lack of resources / time, since all cases need to be analysed through the same methodology

There is limited previous research. Some preliminary surveys on similar topics highlight the importance of understanding 'loyalty to current buildings (place attachment)' vs 'preference to new buildings (livelihood conditions)'

The discussion further pointed out the challenges of using solar panels at neighbourhood level:

Payback time is not feasible for panels

- Possibility of subsidies (co-financing?)



- legal process (medium)
- Connection to the Grid is still lacking
- Limitations because of the surfaces of terraces (6-8 sqm/fam)

Other aspects to consider:

- solar radiation
- passive energy systems
- orientation of buildings
- building materials (insulation)

### 3.3.2 Case study 2

**Topic:** Assessing the state and impact towards the Just Transition process in the energy sector in North Macedonia – with a territorial focus on the Southwest planning region

**Participants:** Vesna Garvanlieva (CEA – Moderator); Elena Gotovska (CEA); Igor Mitevski (CEA); Ana Marija Petrovska (CEA); Alberto Giacometti (Nordregio); Marjan Nikolov (CEA); Darko Blinkov (State Environmental Inspectorate); Yahya Shaker (Polito); Marjan Marjanovic (University of Banja Luka)

<p>1.What is your view on the proposed scenarios &amp; viability? Most likely to take place?</p>	<p>Three scenarios developed.</p> <p>Scenario 0- nothing changes: it continues to produce some energy, the employees are not transferred, and everything stays as is, especially since this is very likely to continue, given that it has already been postponed. The way the scenarios are formulated make sense, but what are the criteria observed? If we transpose to one amount of energy to the same amount of energy, we still need to see the impacts on the employees, what will happen with the existing employees? also, is there a spatial dimension, if the new energy source is at the same or different location, i.e. where does it create jobs? then, is it the same profile of employees necessary, with the same skills, and the same number of employees? Also with regards to reskilling, the time perspective is very important, as 2025 is very close, so there is not a lot of time for the reskilling and transition of the employees.</p> <p>Another way of working with scenarios is to describe the outcomes (hypothetical scenarios) rather than the measures. E.g. 4 scenarios 2 opposite extremes, and 2 middle way cases. Then you instead work with stakeholders to identify the measures needed to achieve the described scenarios.</p>
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	<p>The options / scenarios are upgraded, so with regards to viability the third one is the best one, but it will not necessarily take place</p> <p>Substituting jobs within each scenario?</p> <p>baseline continues to as as moving towards the transition, moving with gradual closure. the dimension of just transition.</p>
<p>2. Would you deem policy/legal or other challenges for the implementation of (some) scenario?</p>	<p>liberate skilled labour from one industry. So it might be good to see what type of skills you are releasing to the labour market.</p>
<p>3. Your view on the proposed methodology and tools? Considering validity, availability, of data and information and access?</p>	<p>Reconsider the cost-benefit approach, as people will not get substitution for jobs, but they are going to lose jobs. There will be also benefit to a smaller number of people. Another important thing is the social infrastructure. There is strong reliance on this industry to generate jobs, so looking at the possible impacts it is important how it will affect the social fabric, if people will be able to continue to meet, communicate, be together.</p> <p>Why monetizing, why not consider other approaches?</p> <p>The idea of a transition to ne just, is that nobody is left behind. So with regards to the question number 3, you need to mark, recognise the people / groups who are going to be most heavily affected, who are the winners and the losers of the transition process</p> <p>Need to go beyond the cost-benefit analysis</p> <p>study the cases of what happened in France and Germany when they shut down some energy production facilities. It is important to consider the macro regional effects, not only on the municipal level.</p> <p>how to work around qualitative aspects? e.g. cultural association, location of jobs, health conditions related to work</p> <p>Analysis of the labour force and their skill level</p> <p>It's limiting to account only for direct replacement of energy source/job A with B. Need a holistic approach.</p> <p>E.g. energy efficiency measures can cut consumption.</p> <p>Not only include ministries, it must involve businesses, companies - who will pay taxes, or have high costs for their working processes. As well NGOs who have bigger picture and are aware of EU legislations and obligations</p>



<p>4. Central question: What are the potential long-term regional socio-economic and environmental effects from the implementation of just transition decommissioning scenarios of TPP Oslomej? (cost and benefits?)</p>	<p>We will have a bad impact from the transition process. 1,000 jobs will be lost. PVs are being built, but the state is weak, and people are leaving. the economy will be heavily affected, not only the direct employees, but also people / businesses who were providing services and works to TPP Oslomej.</p>
<p>Quadruple Helix Stakeholders</p>	<p>Government, companies, NGOs and citizens / academia</p> <p>Possibilities for retraining workforce for new jobs?</p> <p>transitions also mean new actors - how are they identified, engaged, supported?</p> <p>When we are talking about jobs transition we are also talking about justice. we need to hear the voice of those who are directly concerned.</p> <p>The stakeholders, especially the government, does not involve us in the process. the transition is being planned, without proper involvement of the municipality, the business sector, and the other stakeholders.</p> <p>We need to consider the possibility for part of the labour force to move out, to emigrate. loss of the labour market, as a result of the transition process.</p> <p>Companies are not an homogenous group, there are those which are innovative and ready to change, and those that are stuck in the status quo - how to work with both?</p> <p>It is our intention to try to organise a focus group, to discuss with the stakeholders, what is their view on each of the scenarios, what are the effects of each of the scenarios, and what alternatives they see / suggest to be considered.</p> <p>We want to see that is the substitution level in terms of energy production, from what is the potential of TPP Oslomej, to what is realistically feasible.</p> <p>New governance models/ 'way to do things': new relations emerge between stakeholders</p>

Another problem is the waste disposal. Regional waste disposal is planned, from Kichevo to Novaci, and we do not have money for this, as well. This, together with the plan for transaction of TPP Oslomej, will seriously affect the economy of Kichevo, and people will leave / are leaving.



Main challenges:

- problem with employees, how to educate them to work in other areas
- Usurping social infrastructure
- the problem with TE materials and how to deal with them
- spiralling effects on other sectors: restoration, suppliers, services
- what is proposed solution, is it too expensive for the country? are the initiatives of financial support available to citizens?
- In relation to the current energy crisis, there is also to consider the risk of depending on foreign sources - not only in price but availability also

General Comments:

- the scenarios are improvement but not necessary take place
- specify closely the just transition and policies - scope covered
- Impacts on social infrastructure must be considered
- what are the perspective of other stakeholders
- the criteria you are looking at, zero-sum from one to another energy source but what about the labour
- compensatory measures: e.g. re-skilling, incentives for employers, or for installing solar panels in private homes, etc?
- unintended positive effects - e.g. skilled labour open to work in new businesses
- nobody is left behind one is more affected - consider methodologies for assess cost and benefits of most vulnerable. recognizing the groups that the losers and winners of the transition.
- reduction of GHG benefit
- unintended positive effects - e.g. skilled labour open to work in new businesses
- compensatory measures: e.g. re-skilling, incentives for employers, or for installing solar panels in private homes, etc?
- spatial aspects, where does it take place
- what about the reskilling of the jobs and time perspective
- Justice can also be about the quality of jobs
- note being able to monetise all the costs and benefits especially social infrastructure and aspects
- consider possible skills needed in the region and possibility for redistribution
- SME - supply chains locally connected with the TPP Oslomej economic activities
- scenario o consider to continue operations
- consider to have objective for creation policy for deskilling and job transitioning - purpose?



### 3.3.3 Case study 3

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

**Participants:** Marija Jeftic (UB-GEF-Moderator); Aleksandar Djordjevic (UB-GEF); Ana Nikolov (ICBCI Institute, AEBR Balkans); Erblin Berisha (Polito); Ivan Radulović (City of Kragujevac); Vojislav Jovic (Sigurne staze); Tijana Zivanovic Milic (Ministry of construction, transport and infrastructure); Siniša Trkulja (Ministry of Construction, Transport and Infrastructure); Milan Radovic (UB-GEF); Zora Zivanovic (UB-GEF); Dobrila Mratinkovic (Centar Za Razvoj)

1. What is your opinion on proposed scenario? Do you see it realistic or over ambitious? SWOT?	To remove use of coal for electricity production for public transport 2032 city center carbon neutral&Co2 free Consider social effect the scenario will bring to the areas carbon neutral emission public transport /central zone/ Necessary to extend scope to other transport modes /bicycle etc/
2. What is the expected impact of the proposed scenario to the specific stakeholders (community, local businesses, private sector partners, local governance).	Long-term benefit - Reducing the number of car users Less car users - more green zones - greater accessibility to green areas - clean air Reducing the pollution from car use, now is >40% Infrastructure investments are prerequisite for the scenario implementation  Competitive edge - attract the investors to a greener city surrounding
3. Your view on the proposed methodology and tools? Considering validity, availability, of data and information and access?	to expand indicator list with: SDG11 indicator on urban mobility Geospatial analyses to be added (isochrones etc.) To consult already existing urban mobility strategies n Serbia
4. Do you recognize challenges or risks that may affect implementation of the proposed scenario?	changing the mentality is challenge To improve data collection to do better analyses open data and how we can improve that
5. Quadruple Helix Stakeholders	Public health related stakeholder Public transport related stakeholders





## Annexes

### Annex 1: Co-Design 1 Workshop Agenda

#### AGENDA

## Co-Design Workshop on the Conceptualization of the Green Transition in the Western Balkan – part 1

8 November 2022, 14.00 - 17.00 (CEST)

Online - Zoom Link Below

Venue: Mural online platform

14.00 - 14.20: Welcoming, short introduction of GreenFORCE project and Co-design workshop objectives.

**14.20 - 15.00: 1<sup>st</sup> Session: Setting the Scene**

14.20 - 14.40: Green Transition, EU Green Deal and Green Agenda for the WB

14.40 - 15.00: Unpacking Concepts of 'Just Green Transition' in the Nordic Countries

**15.00 - 16.00: 2<sup>nd</sup> Session: Green transition in the WB - challenges and opportunities**

15.00 - 15.45: **Parallel work:** Thematic working groups on Climate; Energy Efficiency; Renewable Energy; Depollution; Circular Economy and/or territorial planning – brainstorming and discussion

*[The 5 thematic working groups will discuss in parallel in different rooms issues related to challenges, priorities, trends, needs and interest.]*

15.45 - 16.00: **Plenary session:** Green transition in the WB – challenges and opportunities

**16.00 - 17.00: 3<sup>rd</sup> Session: Unfolding green transition in the WB - focus and way forward**

16.00 - 16.35: **Parallel work:** Thematic working groups on Climate; Energy Efficiency; Renewable Energy; Depollution; Circular Economy and/or territorial planning – brainstorming and discussion

*[The 5 thematic working groups will discuss in parallel in different rooms issues related to focus and way forward.]*

16.35 - 16.50: **Plenary session:** Green transition in the WB – focus and way forward

16.00 - 17.00: Conclusions and next steps



**Annex 2: Participants list – First Co-DESIGN 1**

<b>Name Surname</b>	<b>Institution</b>	<b>Country</b>
Aida Shaneh	POLITO	Italy
Alberto Giacometti	Nordregio	Sweden
Ana Marija Petrovska	CEA	North Macedonia
Ana Nikolov	Institute for international and cross border cooperation	Serbia
Anila Gjika	Co-PLAN	Albania
Azra Vukovic	NGO Green Home	Montenegro
Besjana Qaja	National Territorial Planning Agency	Albania
Bojan Trpevski	Macedonian Young Lawyers Association (NGO)	North Macedonia
Boran Ivanoski	NALAS	
Branko Protić	UBGEF	Serbia
Danial Mohabat Doost	POLITO	Italy
Darko Blinkov	State Environmental Inspectorate	North Macedonia
Dina Skarep Radonjic	Hydrocarbons Administration of Montenegro	Montenegro
Elena Gotovska	CEA	North Macedonia
Erblin Berisha	POLITO	Italy
Fani Zojcevska	Ministry of Environment and Physical Planning	North Macedonia
Fiona Imami	Co-PLAN	Albania
Giancarlo Cotella	POLITO	Italy
Gjergji Simaku	Ministry of Infrastructure and Energy	Albania
Haris Abaspahic	Regional Cooperation Council	Bosnia and Herzegovina
Igor Mitevski	CEA	North Macedonia
Irma Muhovic	NGO MES	Montenegro
John Moodie	Nordregio	Sweden
Kejt Dhrami	Co-PLAN	Albania
Klodjan Xhexhi	Polis University	Albania
Kristina Cvejanov	Green loop	Serbia
Lisa Fredriksson	Embassy of Sweden	Albania
Marija Jeftic	UBGEF	Serbia
Marjan Marjanovic	University of Banja Luka	Bosnia and Herzegovina
Marjan Nikolov	CEA	North Macedonia
Medina Garić	LIR Evolution	Bosnia and Herzegovina
Mihallaq Qirjo	REC Albania	Albania
Ognjenka Zrilić	LIR Evolution	Bosnia and Herzegovina
Rea Muka	Co-PLAN	Albania
Rodion Gjoka	Co-PLAN	Albania
Rudina Toto	Co-PLAN	Albania
Siniša Trkulja	Ministry of Construction, Transport and Infrastructure	Serbia
Slavisa Jelisic	Development, consulting and research organisation	Serbia
Suzana (Sunčica SUKUR)	University of Banja Luka	Bosnia and Herzegovina
Tijana Živanović Milić	Ministry of Construction, Transport and Infrastructure	Serbia
Vesna Garvanlieva	CEA	North Macedonia
Vojislav Jovic	Sigurne staze NGO	Serbia
Yahya Shaker	POLITO	Italy
Zora Zivanovic	UBGEF	Serbia



### Annex 3: Co-Design 2 Workshop Agenda

## Co-Design Workshop on the Conceptualization of the Green Transition in the Western Balkan – part 2

22 November 2022, 14.00 -16.30 (CEST)

Online - Zoom Link Below

Venue: Mural online platform

<https://app.mural.co/t/greenforce1003/m/greenforce1003/1667559091075/fe3b87ab425979958383075898ec3208fc2d0b75?sender=u103fe26ba2a1f39ee7f48609>

- 14.00 - 14.10: Welcoming, Findings and remarks from Co-design workshop, part 1 and objectives for co-design workshop, part 2.
- 14.10 - 14.40: **1<sup>st</sup> Session: Setting the Scene**
- 14.10 - 14.25: Inspirational presentation on Just Green Transition / City of Lahti, Finland – European Green Capital 2021  
*Henna Eskonsipo-Bradshaw, Development Director, City of Lahti*
- 14.25 - 14.40: Inspirational presentation on Just Green Transition / Change agency' - a territorial approach  
*Alberto Giacometti, Senior Research Advisor – Nordregio*
- 14.40 - 15.10: **2<sup>nd</sup> Session: Just green transition in the WB countries - focus of the research and case studies** (plenary session)
- 14:40 – 14:50: Implications of Transition in the Energy Sector at the Regional Level, North Macedonia.
- 14:50 – 15:00: Sustainable Mobility – Transitioning Public Transportation at Local Level, Serbia.
- 15:00 – 15:10: Renewable Harvesting and Energy Efficiency in Post-communist Urban Neighborhoods, Albania.
- 15.10 - 16.30: **3<sup>rd</sup> Session: Just green transition in the WB countries - focus of the research and case studies**
- 15:10 – 15:20: Presentation of the participants, division in three thematic working groups.
- 15.20 – 15.50: **Parallel group work:** Discussion and feedback on the research and case studies  
*[The 3 working groups will discuss in parallel in different rooms organized based on the interest related to each of the case studies presented.]*
- 15.50 - 16.20: **Plenary session:** Just green transition in the WB countries - case studies - validation and feedback  
*[Moderators from each of the 3 working groups will shortly present the discussion and feedback on respective case studies.]*
- 16.20 - 16.30: Conclusions and next steps



**Annex 4: Participants list**

<b>Name Surname</b>	<b>Institution</b>	<b>Country</b>
Aida Shaneh	POLITO	Italy
Alberto Giacometti	Nordregio	Sweden
Aleksandar Djordjevic	UBGEF	Serbia
Ana Marija Petrovska	CEA	North Macedonia
Ana Nikolov	Institute for international and cross border cooperation	Serbia
Anila Gjika	Co-PLAN	Albania
Besjana Qaja	National Territorial Planning Agency	Albania
Branko Protić	UBGEF	Serbia
Danial Mohabat Doost	POLITO	Italy
Dobriła Mratinkovic	Centar Za Razvoj	Serbia
Elena Gotovska	CEA	North Macedonia
Erblin Berisha	POLITO	Italy
Fiona Imami	Co-PLAN	Albania
Henna Eskonsipo-Bradshaw	City of Lahti	Finland
Igor Mitevski	CEA	North Macedonia
Irma Muhovic	NGO MES	Montenegro
John Moodie	Nordregio	Sweden
Kejt Dhrami	Co-PLAN	Albania
Klodjan Xhexhi	Polis University	Albania
Marija Jeftic	UBGEF	Serbia
Marjan Marjanovic	University of Banja Luka	Bosnia and Herzegovina
Marjan Nikolov	CEA	North Macedonia
Mihallaq Qirjo	REC Albania	Albania
Milan Radovic	UBGEF	Serbia
Rea Muka	Co-PLAN	Albania
Rodion Gjoka	Co-PLAN	Albania
Rudina Toto	Co-PLAN	Albania
Siniša Trkulja	Ministry of Construction, Transport and Infrastructure	Serbia
Tijana Živanović Milić	Ministry of Construction, Transport and Infrastructure	Serbia
Vesna Garvanlieva	CEA	North Macedonia
Vojislav Jovic	Sigurne staze NGO	Serbia
Yahya Shaker	POLITO	Italy
Zora Zivanovic	UBGEF	Serbia

