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Transition Super-Lab Roadmap

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Abstract

This deliverable is second version of the blueprint for a Super Lab Roadmap that builds on its previous version. It includes all the lessons learned and experiences gained from different activities performed in the project as well as from various WPs.

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Abbreviations

Abbreviation	Definition
EU	European Union
GHG	Greenhouse gas
NUTS	Nomenclature of Territorial Units for Statistics
NZC	NetZeroCities
QRAFT	Quantitative Regional Assessment Framework for Transition Super-Labs
SWOT	Strengths, Weaknesses, Opportunities, Threats
TSL	Transition Super-Lab
WP	Work Package

Graphical icons

-  Milestones
-  Elements from the knowledge hub
-  Elements from the toolkit
-  Practice examples from the TSLs

Executive Summary

Climate change poses significant threat to all livelihoods and is, therefore, perceived as one of the greatest challenges of our time. Besides international efforts, cities and regions play a vital role in efforts to transition to carbon neutrality. The TRANSFORMER project aims to initiate and to facilitate innovation and systemic transformation processes towards climate neutrality on a regional scale at the intersections of various socio-technical regimes. In four regions, a holistic concept was developed and tested: the Transition Super-Lab (TSL) approach, which is a new collaborative and cross-sectoral approach aiming at accelerating the shift towards climate neutrality. TRANSFORMER pilot regions are the Ruhr Area (Germany), Lower Silesia (Poland), Western Macedonia (Greece) and Emilia-Romagna (Italy). This report presents one of the main outputs of the project, namely the roadmap towards a Transition Super-Lab (TSL). The TSL Roadmap is a step-by-step approach for the implementation of cross-sectoral actions in regions.

The TSL is an idealised concept within an extremely complex policy environment that encompasses a multitude of demands and interests. To ensure that the roadmap can be adapted to the specific circumstances of each region every effort was made to produce guidance that is tailored to the practical needs of planners and policymakers across Europe and beyond. Primarily targeted to regional practitioners and active participants in the planning process, concept and process should be understood by a wider audience. This document summarises the most important findings on how regions can apply the concept of the TSL and in order to make the results as accessible as possible for other interested regions, learnings from the TRANSFORMER Knowledge Hub, Tools and Practise Examples derived from the pilot regions are incorporated.

The TSL Roadmap starts with an overall definition of the concept of Transition Super-Labs (Chapter 2) through defining the key takeaways in TSL development and implementation aiming to explain its fundamental elements to a broad audience and to decision-makers who may be interested in understanding the rationale behind the concept.

Chapter 3 provides a generic, step-by-step description of the TSL development and implementation process and follows the structure of the TSL process, comprising distinct phases, steps and activities. For each activity, readers will find the rationale, objectives, task descriptions and timing followed by a comprehensive actionable checklist at the end of the chapter.

It is possible to read this document from start to finish; however, most readers are expected to use mostly Chapter 3 as a guiding resource throughout the TSL development and implementation process.

1 Introduction

The accelerated transition to climate neutrality represents a fundamental step towards the achievement of well-being for all life forms on Earth.¹ However, achieving this objective is highly challenging due to the closely linked transformational dimensions of social, economic and environmental change, which require comprehensive approaches and innovative solutions.²

The TRANSFORMER project addresses this challenge by focusing on a systemic transformation at a regional scale to accelerate the transition towards climate neutrality, which is the Transition Super-Lab approach (TSL). A TSL is an ecosystem of actors organized to accelerate the transformation towards climate neutrality through innovation, and cross sectorial synergies on a regional scale. It benefits from a collaborative governance, operates in accordance to systemic transformation principles and utilises transition enabling methods and tools in order to create added value to cross-sectorial initiatives for economic transformation and to provide feasible solutions to complex regional transformation challenges. TSL approach adapts and applies enriched living lab methodologies in order to develop (co-create) together with all transition relevant stakeholders from the quadruple helix and society a vision for a regional transformation and a portfolio of large-scale systemic solutions for climate neutrality, net-zero emissions and resilient future. The systemic transformation within TSL catalyses large and diverse communities to innovate for systemic changes that accelerate transition at scale.

The systemic transformation will be achieved by developing and implementing a portfolio of connected solutions (“e.g., pilot use cases”) which engage multiple leverage points at the intersection of socio-technical regimes simultaneously in order to achieve a rapid and more efficient transformation. Therefore, the adaptation of Living Lab methodologies to a large-scale and with a focus on systemic transformation can be regarded as the core characteristics of a TSL.³

As mentioned, in TRANSFORMER, regions are regarded as a very promising scale to foster this systemic change, as they function as ‘burning glasses’ where different sections of socio-technical regimes (e.g., transportation, industry, food system) materialize and intersect. The regional level is of crucial importance for fostering a fundamental systemic change and thus accelerating the transition towards climate neutrality.

The TRANSFORMER transition model and transition roadmap were both developed in the course of the project. Both are equally important elements in the context of the transition procedure. They refer to different aspects of the process and are directly linked to each other.

¹ IPCC. (2021). Climate Change 2021: The Physical Science Basis. Summary for Policymakers. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_final.pdf

² UN. (2023, September 20). THE 17 GOALS | Sustainable Development. <https://sdgs.un.org/goals>

³ The definition of the Transition Super-Lab was written by the project consortium as whole.

- **The TRANSFORMER transition model** refers to a set of principles that supports the conceptual framework of the TSL approach and guides the process of the region's transition towards climate neutrality. It helps define the desired future state of the region, outlines the steps needed to achieve that state, and provides a structured approach for managing the transition. The transition model encompasses various elements such as the vision and goals of the change, the roles and responsibilities of stakeholders involved, the necessary resources, and the strategies for overcoming challenges. It provides a high-level understanding of the transition process and acts as a reference point for decision-making throughout the transition.
- **The TRANSFORMER Transition Roadmap** is a detailed plan that outlines the specific activities, milestones, and dependencies involved in implementing a transition. It provides a step-by-step guide for executing the transition model and serves as a communication tool to align stakeholders and keep them informed about the progress of the change. Integrating key tasks, timelines, responsible parties, resource allocation, and any critical dependencies or constraints that need to be considered, provides a more granular view of the transition process, allowing for better coordination and monitoring of the efforts.

In summary, the TRANSFORMER transition model is a conceptual framework that defines the overall approach and guiding principles for managing the transition, while the TRANSFORMER transition roadmap is a detailed blueprint that outlines the specific steps and activities to be taken to implement the change according to the transition model. The transition model provides a strategic perspective, while the roadmap offers a tactical view of the transition process.

This report has the objective to define the development and implementation process of a TSL in detail to support future regions in developing their own TSLs. As such, the primary target group for the use of the roadmap are regions aiming to initiate a TSL. A secondary target group are those interested parties who by identifying regions could significantly benefit from the TSL approach.

The project has defined three different target groups, with a strong focus on Target group C, that are either directly or indirectly influenced by the project activities and will be engaged. These are:

- Target Group A: Project partners in the four TSL regions.
- Target Group B: Stakeholders in the TSL regions, with a particular focus on marginalised communities.
- Target Group C: Follower regions across Europe from the TRANSFORMER User Forum and future regions implementing TSLs. This group is further defined as public authorities, enterprises that invest in renewable energy sources, enterprises active in the energy storage market, technology providers enabling climate transition, researchers in the field of sustainable development, policy analysts, and ecologists.

2 The concept of Transition Super-Labs

The concept of Transition Super-Labs embodies a transformative and collaborative approach that addresses the urgent need for climate neutrality within a short timeframe. These labs serve as dynamic ecosystems, uniting diverse stakeholders in a collective effort to accelerate regional transformations towards a carbon-neutral economy. Transition Super-Labs are characterized by their commitment to collaborative governance, systemic transformation, and the utilization of innovative methods and tools. By fostering cross-sectorial synergies and focusing on regional-scale initiatives, these labs aim to drive comprehensive and sustainable solutions⁴.

Key takeaways in TSL development:

- TSLs are innovative ecosystems that bring together stakeholders to drive regional transitions towards climate neutrality.
- The distinctive attributes of TSLs differentiate them from traditional Living Labs, emphasizing systemic transformation and cross-sectorial collaboration.
- Regional transitions play a crucial role in achieving climate neutrality, serving as focal points for diverse socio-technical regimes to intersect and transform.
- The synergy between "Just Transition" and "Regional Transition" reinforces the importance of equitable and sustainable transformations within specific geographic contexts.
- Stakeholder engagement within Transition Super-Labs ensures a participatory and adaptive approach, enriching the co-creation process and fostering ownership among diverse actors driving innovation, experimentation, and adaptiveness.
- The use of the Quadruple Helix model in TSLs integrates expertise from academia, industry, government, and civil society, enhancing the potential for impactful outcomes.
- The TSL approach emphasizes simultaneous transformation across multiple societal systems, leveraging the innovative convergence of elements within regions to fuel systemic innovation.
- By orchestrating systemic transformation within TSLs, cross-sector collaboration, and interconnected solutions portfolios are harnessed to expedite the transition process, fostering meaningful and lasting impacts on a regional scale.

⁴ More detailed information about TSLs, including their characteristics, definition of the difference between Living-Labs and TSLs, the importance of regional transition, the approach to a systemic transformation, the core elements of the stakeholder engagement process, benefits of TSLs and the main elements of their development process are provided in the Knowledge Hub and deliverable 4.1.

3 Roadmap for developing and implementing a TSL

The primary objective of the roadmap is to prepare a standardised action-oriented pathway and guide all stakeholders involved in the process through the phases, steps, and activities necessary for the successful implementation of TSLs. The roadmap process is conceptualized as an interactive, parallel, and reflective process rather than a strict sequence to be followed. While considering the specific nature, characteristics, and readiness of each region, certain steps, activities, or even phases may be omitted or accelerated.⁵

This roadmap is structured in phases, steps, and activities. As outlined above, the final version of the document went through various adjustments with some changes in activities and steps (a summary of the changes can be found in Annex 2 Summary of changes to the roadmap from the original version). However, the four distinctive phases remained consistent throughout this process, namely:

- Phase 1: Assess and build the transition capacities
- Phase 2: Gearing the transition capacity
- Phase 3: Accelerating transition through innovation
- Phase 4: Scaling-up transition

Each of these phases commences and concludes with a milestone, which serves as the foundation for subsequent decisions or outcomes. Each Activity is comprised of a series of steps, each of which is supported by a rationale, objectives, tasks, and a defined timing. Annex 1 of this document provides a comprehensive checklist of actions that are linked to each step of the roadmap.

Furthermore, deliverable 4.2 is enhanced by the incorporation of tools from the TRANSFORMER toolkit, knowledge snapshots from the TRANSFORMER Knowledge Hub, and practical examples from all four pilot regions. A comprehensive list of the Knowledge Hub items, the tools and their respective connections with the steps of the roadmap is provided in Annex 3, while a detailed description of the tools can be found in deliverable 4.3.

Figure 1 below illustrates the roadmap for developing and implanting the TSLs.

⁵ The roadmap for developing and implementing TSLs builds upon deliverable 4.1 and incorporates insights and experiences gained throughout the project lifecycle from various engagements, including through learnings gathered from pilot TSLs of TRANSFORMER project (Deliverable 3.4 – “Transition Super-Labs” Lessons Learned), User Forum activities, best practices (Deliverable 5.3 “Best practices and recommendations for Super-Labs operation towards the regional transition) and others.

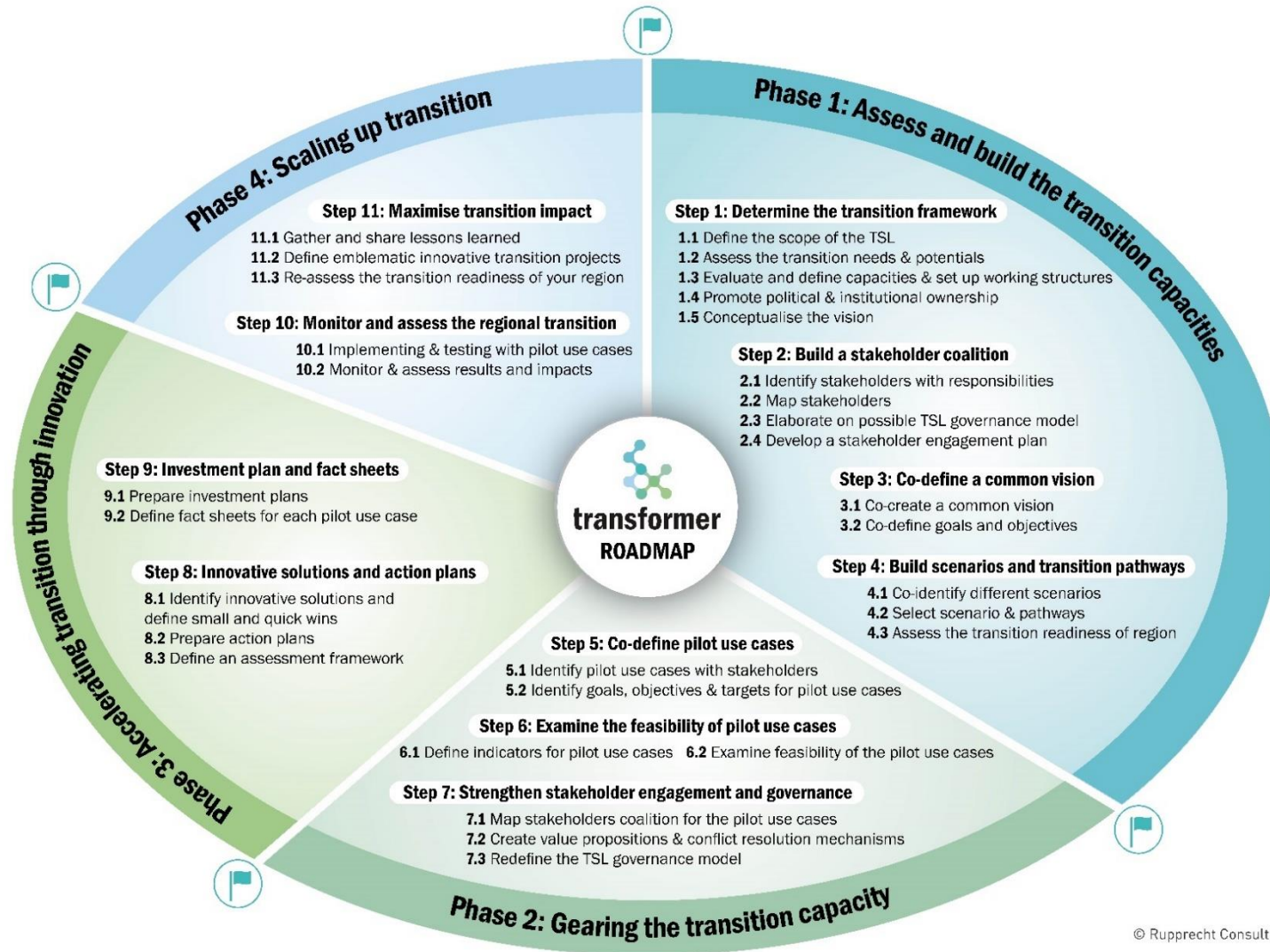


Figure 1. The Transition Super-Lab roadmap – a detailed overview

3.1 Phase 1: Assess and build the transition capacities

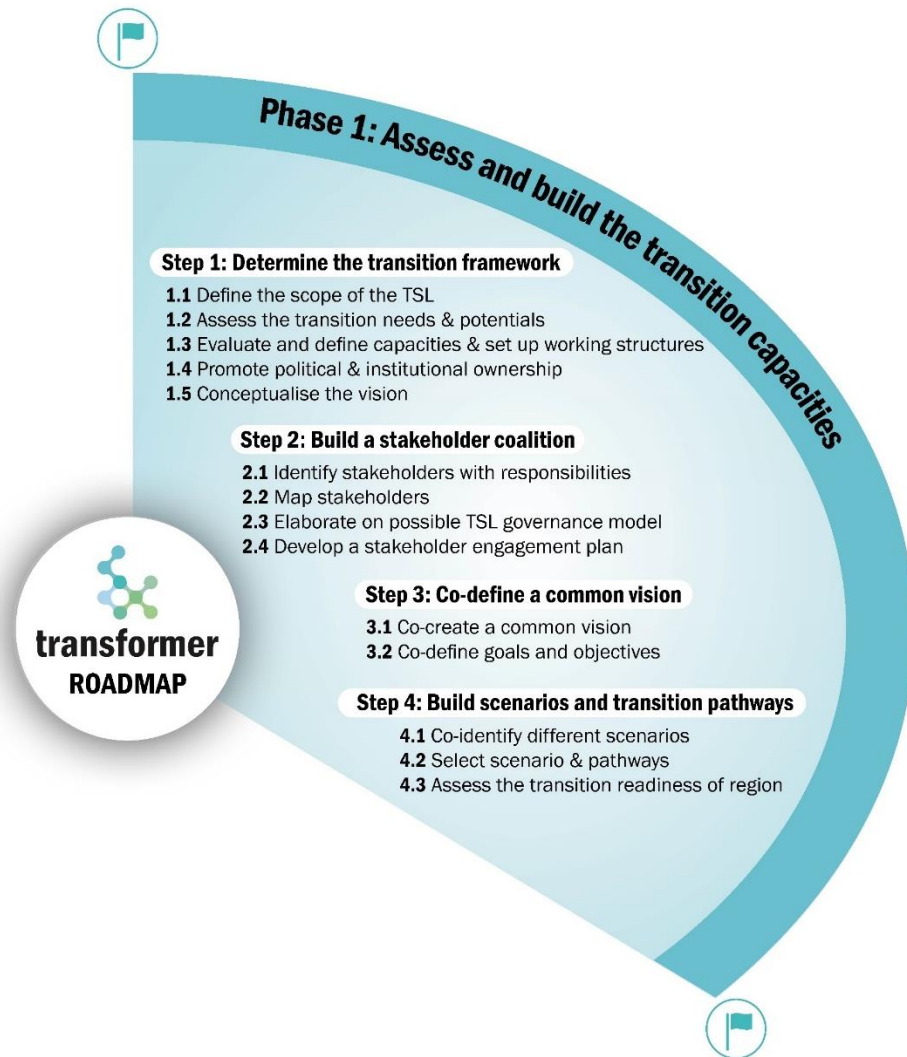


Milestone: Initiation and commitment for starting the TSL process

The initiation of a TSL is an important step toward achieving climate neutrality and as a systemic change at the regional level and should be discussed in line with the broader objectives of the regions. It presents an avenue for uniting impactful, large-scale stakeholders with comprehensive participation strategies, a combination crucial for garnering public support and driving climate transition. In certain scenarios, a significant regional strategy or infrastructure project centred on climate neutrality could catalyse the initiation of a cross-sectoral approach facilitated by the TSL framework.

Effectively conveying the impending challenges and repercussions that may unfold if the status quo persists can serve as a persuasive method for practitioners to convince their institutions to initiate a TSL in their region. The use of visual aids, such as maps and statistics, can amplify the urgency for regional decision-makers. Additionally, by showcasing how a TSL can address pressing regional concerns, it establishes a connection to ongoing priorities, further underscoring its value.

The inaugural phase's cornerstone is a decisive commitment from regional decision-makers to formulate and actualize a TSL by addressing major questions: What are the transition needs and potentials? What resources are available (e.g. personal, capacities, financial, time, etc.)? What contextual factors influence the endeavour (e.g. legal and policy framework, etc.)? Which stakeholders need to be engaged and onboard? What is the local and global context? This initial step shapes the foundation upon which the subsequent stages of the TSL journey are built, ensuring a comprehensive and strategic approach toward achieving regional climate transition goals.



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Figure 2. Phase 1 of the TSL development process

3.1.1 Step 1: Determine the transition framework

Activity 1.1: Define the scope of the Transition Super-Lab

At the beginning of the TSL development, the practitioners starting off the process need to first identify the relevant scope the TSL will aim to cover and address. To do so, a first review of regional and national policy frameworks and strategies existing and ongoing should be conducted to identify key interests and challenges the region is facing. Gaps and barriers should be identified and potentially addressed in the development of the TSL. The X-Curve- Toolkit (Toolbox 1) can support practitioners in understanding the transition dynamics.

Practitioners can also conduct interviews of specific stakeholders that emerge from the existing framework or experts that would be beneficial in understanding the regional context and ecosystem. In addition, surveys could be set up and distributed to stakeholders to further identify the needs of the regions, specific interests, values or weak points in the transition process. Such surveys or interviews can also serve as a means to confirm certain aspects of the scope that have been identified by the practitioners establishing the TSL.

Even though Activity 1.1 is the first step, it should be considered as an iterative loop in Activities 1.2 and 1.3.

A variety of tools can be utilised for this preliminary Activity. The Transitioncamp (Toolbox 2) and Ambition Settings Workshop (Toolbox 3) tools can facilitate the creation of a shared understanding of the TSL among the various stakeholders and assist in defining the overarching objectives of the transition pathways.

Objectives

- Define the geographical scope of the TSL.
- Create a summary of the regional and national framework with suggestions on how to address it in the TSL.
- Identify, assess and connect with the larger picture: Planning documents, strategies and objectives that might influence the TSL. For example, EU, national and especially regional climate transition strategies, as well as sectorial strategies that may exist.

Tasks

- Review existing policies, regulations, and plans related to the climate-neutral transition in the region in multiple sectors.
- In the case of implementing the TSL in the EU, identify EU initiatives on local, regional and state levels and connect them with the overall objectives of the TSL.⁶

⁶ One such EU initiative could be NetZeroCities programme where cities use a governance tool - Climate City Contracts that are developed collaboratively to define cities pathways to climate neutrality. This process-oriented document consists of three main and interrelated components: Commitments, Actions and Investments. Commitments define all the goals and strategies that cities commit to address. Action Plans look at specific actions to deliver on cities' commitments, while defining the strengths and gaps of existing strategies, policies and plans. Finally, investment plans define and mobilize public resources and identify ways to attract private capital to finance cities' specific pathways to climate neutrality (Source: Home - NetZeroCities,2024). While the CCCs are primarily prepared at the local level, the regions should also look at that level with the aim of aligning commitments and pathways.

- Identify gaps or barriers in the current framework that could be addressed through the implementation of a TSL.
- Conduct expert interviews and surveys to gather insights on regional needs, interests, values, and weak points.
- Analyse existing data and research relevant to the region to identify key challenges and opportunities. While moving forward with activities 1.2. and 1.3. This task could be repeated.

Timing and coordination

- Define geographic scope early so that it is considered when setting up the working structure (Activity 1.3) and when defining the stakeholder and citizen involvement (Activities 2.1, 2.2 and 2.3).

Toolbox 1. The X-Curve Toolkit

To understand the complexity of initiating and managing transition processes and enabling stakeholders with different social and educational backgrounds to participate, it is important to create “a common language and understanding of the societal dynamics at play” (Silvestri et al. 2022, p. 4). The X-Curve, developed by DRIFT and EIT Climate-KIC Transitions Hub, “is a visual tool aimed at creating a richer understanding of the transition dynamics within society or a specific context (e.g. neighbourhood, city, region, etc.)” (ibid.). It focuses on gaining a deeper understanding and awareness of systemic transformation and aims to support decision-making. Therefore, it is especially useful in the early phase of the transition process and project development: “As a sensemaking tool, the X-Curve can be used as part of a short or longer process including a combination of co-creation workshops and desk research. [...] Areas of application could be: System Mapping, Priority setting and Governance, Instrument mix and experiments, and Learning and institutional change” (ibid., p.10).

The nine different steps of the co-creation sessions, as well as examples of applying the X-Curve can be found at: <https://drift.eur.nl/app/uploads/2023/08/X-Curve-booklet-DRIFT-EIT-Climate-KIC-2022-1.pdf>

This tool can also be used in Activities: 1.2, 1.3, 1.4, 1.5



Toolbox 2. Transitioncamp

The Transitioncamp serves as an open day event, bringing together all the stakeholders of the Transition Super-Lab (TSL) in a collaborative setting. The primary purpose of this gathering is to facilitate effective communication and foster a common understanding of the TSL approach among the various parties involved. Based on each TSL pathways, the Transitioncamp can be useful during different phases of the roadmap. For instance, at initial stage, the Transitioncamp serves as a tool for stakeholders to gain a comprehensive understanding of the TSL's objectives, its scope, and the expected outcomes. At a later stage the tool can be useful to: (i) deepening the knowledge developed at beginning, which means diving into specific aspects of the TSL and thus help the stakeholders in getting a more nuanced understanding; (ii) refining objectives since normally objectives of a project can evolve as it progresses; (iii) developing a concrete strategies and action plans to reach those objectives; (iv) tackling specific challenges that have arisen since stakeholders' initial involvement; (v) fostering the networking opportunities initiated at the early stage.

This tool can also be used in Activities: 1.4, 1.5, 2.1, 2.2, 3.1, 3.2, 4.1, 4.2, 5.1, 6.1, 7.1, 10.2, 11.2



Toolbox 3. Ambition Setting

Ambition Setting workshops help the Transition Super-Lab (TSL) in defining and refining ambitious goals for advancing regional transformations towards climate neutrality. This collaborative approach engages cities and diverse stakeholders in a co-creation process, leveraging existing policy frameworks and strategic documents as the basis for setting bold aspirations and objectives. By leveraging these documents, stakeholders can build upon established strategies and integrate innovative approaches into regional sustainability agendas: stakeholders collaboratively shape ambitious agendas and objectives that propel climate neutrality efforts forward. This process fosters alignment, fosters commitment, and empowers cities and regions to embrace transformative actions towards a resilient and sustainable future.

This tool can also be used in Activities: 3.1, 4.1



Activity 1.2: Assess the transition needs and potentials

To substantiate the determined TSL scope outlined in Activity 1.1, practitioners can undertake a first evaluation of the region's transition needs and potentials. This evaluation may be based on several steps and methodologies. As a first step, the Quantitative Regional Assessment Framework for Transition Super-Labs (QRAFT) could be conducted as the first assessment of transition needs and potential to identify the most important “topics” (such as agriculture, energy, manufacturing, mobility, etc.) for becoming climate neutral (Knowledge Hub Box 1). The process should be followed by expert interviews to verify and complement the quantitative assessment. As a second step, two SWOT analyses (overall SWOT analysis and topic-based SWOT) should be performed, potentially followed by expert interviews to complement the information. As a third step, practitioners should get familiarised with the methodology for assessing

the efficiency and success of the transition process towards climate neutrality based on the TRANSFORMER transition model.

Knowledge Hub Box 1. QRAFT

The QRAFT framework supports conducting the first actions in the TSL process of identifying the regional challenge and possible topics for transition and developing a vision for transformation. Using data such as Greenhouse gas (GHG) emissions per capita development, the carbon emissions intensity (CEI) of economic sectors and existing Composite Indices (CI) at a regional level (NUTS 2) or were available on a local level (NUTS 3), it is designed to function as a tool for gaining a data-driven understanding of the importance of different possible TSL topics within a region for stakeholders with limited overview on sectors with transition needs from their region. It also enables knowledgeable stakeholders to question existing narratives about their region if necessary.

QRAFT serves as a substantial first action which could be complemented by a qualitative and context-sensitive methodology, such as the Transition Readiness Assessment frameworks that has been developed in TRANSFORMER. Leveraging publicly accessible statistical data within the European Union, this methodology complemented by an interactive dashboard that makes this data accessible stands as a valuable resource for TSLs.

*More information on QRAFT can be found in [deliverable 2.2 Quantitative mapping research report](#)
Link in Knowledge hub: [Quantitative Regional Assessment Framework for Transition Super-Labs \(QRAFT\)](#)*



Practice Example 1. QRAFT in action

Once the overall vision of the pilot use cases in the TRANSFORMER project had been set, an analysis was carried out for the four TSLs in order to define regional needs and potentials using the QRAFT methodology. This methodology enabled the TSLs to critically reassess their already chosen topics and confirm the need to focus on specific themes of the pilot use cases.

In the case of Western Macedonia, the QRAFT analysis showed that accelerating the phase-out of lignite is of paramount importance for the region, given the extremely high emissions from the energy sector and the high CEI from the “Energy and Waste” sector.

The QRAFT assessment for Lower Silesia also confirmed that a pilot use case focusing on the development of convenient transport links for the benefit of the environment, would make a significant contribution to reducing emissions from the power industry and fuel production that currently covered nearly half of the region’s GHG emissions.

Emilia-Romagna TSL also developed pilot use cases focused on the transport sector, while Ruhr Area, which has by far the highest share of GHG emissions in the manufacturing sector compared to other TRANSFORMER TSL regions, focuses on the hydrogen issue. Similar to the other two regions, the QRAFT assessment confirmed that the use cases defined by Emilia-Romagna and Ruhr Area are of utmost importance.

More detailed analysis on the results of the QRAFT for the four TRANSFORMER TSLs can be found in [deliverable 2.2 Quantitative mapping research report](#)



As a second step, two SWOT analyses, complemented by the expert interviews should be followed the above-mentioned first step. The first SWOT analysis is an overall analysis while the second serves as a topic-based (identified during QRAFT) review. A SWOT workshop (Toolbox 4) can be one of the tools used for such analysis. Also, a PESTEL analysis could be a useful methodology for this task (Knowledge Hub Box 2).

Toolbox 4. SWOT Workshop

This is a methodology that can facilitate bottom-up strategy development by engaging diverse stakeholders such as universities, municipalities, companies, and civil society organizations within a region. This approach is particularly effective in supporting the TSLs to gather and visualize essential data that accurately describe the current state and potential pathways for transformation within the regional context. By identifying strengths, weaknesses, opportunities, and threats collectively, TSL stakeholders can collaboratively shape strategies to accelerate the transition towards a zero-carbon economy, fostering inclusive and impactful decision-making processes.

This tool can also be used in Activities: 1.1, 2.1,2.2, 2.3,2.4, 7.1, 7.2



Knowledge Hub Box 2. PESTEL Analysis

The PESTEL approach stands for Political, Environmental, Social, Technological, Economic, and Legal analysis (Alanzi, 2018). The methodology can be used for analyzing and monitoring the macro-environmental factors that may have a profound impact during the region's transition process. It is suggested as a methodology for the regions to identify the factors that can enable or prevent the transition towards climate neutrality. By systematically assessing these six critical dimensions, regions can gain valuable insights into the external influences affecting their transition efforts. This comprehensive analysis provides a structured approach for regions to proceed to next steps strategically developing pathways and scenarios for transformation towards climate neutrality (Activity 4.1 in TRANSFORMER Roadmap), ensuring that all significant external factors are considered and addressed

Link to the Knowledge hub: [PESTEL analysis](#)



As a third step, TRANSFORMER has taken strides in crafting a methodology for assessing the efficiency and success of the Transition Process towards climate neutrality based on the TRANSFORMER transition model. This methodology is integrated into deliverable 5.1 and updated in deliverable 5.2, in the Knowledge Hub, and is also outlined in Knowledge Hub Box 3 below.

Knowledge Hub Box 3. Assessing the Efficiency and Success of the Transition Process Towards Climate Neutrality

The methodology for assessing the efficiency and success of the Transition Process towards climate neutrality is a four-phase process based on the achievement of specific milestones to be reached at the end of each transition step of TRANSFORMER cross-sectorial transition model in a suggested timeline. In the first phase, the common ground for the transition is established by defining the region's challenges, identifying the relevant stakeholders and their engagement plan, assessing the region's readiness for transition and identifying multi leverage pilot use cases.

In the second phase, TSLs continue to further expand their activities to select the most suitable 'pilot use cases' that create value proposition for the different stakeholders. This is followed by the development of quick wins and action plans to accelerate the transition process of the region in the third phase.

The process is finalised by securing the innovative policy measures that could ensure the scalability of the pilot use case implementation and the maximization of their impact.

At this stage this milestone achievement monitoring approach will provide to TSLs a clear overview of what should be monitored and assessed during the transition process paving the ground for Activity 10.2 of the roadmap.

*More information on the methodology for assessing the efficiency and success of the Transition Process towards climate neutrality can be found in deliverable 5.2 Framework for Super-Labs Assessment
Link in Knowledge hub: [Methodology for assessing the efficiency and success of the Transition Process towards climate neutrality](#)*



Objectives

- Establish a systematic approach for assessing the transition needs and potentials of the region within the context of the TSL.
- Enable the TSL to set clear timelines, responsibilities, and tasks for all participating parties to streamline assessment efforts.
- Enhance the ability of the TSL to report their assessment processes and outcomes effectively.

Tasks

- Perform detailed analysis using QRAFT methodology for identifying transition needs and potentials for becoming climate neutral.
- Perform two SWOT analyses, 1) Overall SWOT and 2) Topic-based SWOT or similar analysis like PESTEL analysis.

For both tasks, several sub-tasks should be performed. Such as:

- Gather relevant data to be used by identifying relevant datasets and open-source data. Collect data related to regional emissions, economic sectors, and other relevant indicators. Ensure the accuracy and reliability of the data collected.

- Analyse the data and identify the transition needs and potentials. Analyse the data to identify key areas for GHG emissions reduction and potential opportunities. Validate the results using statistical methods and quality assurance procedures.
- Develop a report detailing the assessment processes undertaken and summarising the results of the assessment, including insights, observations, and recommendations for the future steps of the TSL development.
- Perform expert interviews to validate the quantitative data.
- Get familiarised with the methodology and elements for assessing the efficiency and success of the transition process towards climate neutrality based on the TRANSFORMER transition model. For this step, no specific data is needed to be collected. The transition model should be checked with a focus on timelines, steps, and participants of the task.

Timing and coordination

- Performing analysis using QRAFT methodology should be done at an early stage to achieve success in transition processes.
- The implementation of the methodology for assessing the efficiency and success of the transition process towards climate neutrality starts in Activity 1.2 but will be taken further in Step 9 of the roadmap.

Activity 1.3: Evaluate and define capacities and set up working structures

Within this activity, it is important to conduct a comprehensive self-assessment of planning practices, capacities, and resources to customize the TSL process to a specific local context. This assessment enables regions to identify strengths, weaknesses, barriers, and drivers that may impact the successful development of a Transition Super-Lab.

Assessing the available capacity of the organisation initiating the TSL, including different stakeholders, and resources for TSL development and its implementation is crucial. The needed skills should include stakeholder engagement, project management and data analysis at its least. While defining capacities, regions should remember that at different phases or steps of the project, different capacities might be needed.

Additionally, it is important to assess both confirmed and potential financial resources available for the development of the TSL and the implementation of pilot use cases. This assessment will help determine the financial feasibility and sustainability of the TSL development and ensure that adequate resources are allocated for successful implementation.

A strategy addressing any skill gaps that may exist should be defined. It may involve various approaches such as providing training programs, fostering collaborations, considering recruitment options, or even subcontracting.

It is also necessary for the leading organisation initiating the TSL process to define the required budget and obtain political approval for the allocated funds. This step ensures that adequate financial resources are available to support the entire planning process effectively. Additionally, assessing the likely budgetary framework for the development and implementation of the TSL approach and its pilot use cases is crucial. This assessment should consider possible funding opportunities on different levels of governance, such as at the local, regional, national, and EU levels. While the estimation of the budgetary framework may still be approximate at this stage, it plays a vital role in maintaining realistic expectations and facilitating informed decision-making throughout the development process.

Insufficient human and financial resources can pose challenges in effectively carrying out the TSL and achieving success.

The mentioned activities also prepare the ground for future activities focusing on establishing the governance models (Activity 2.3) and assessment of transition preparedness (4.3).

Objectives

- The overall objective is to assess the existing planning practices as well as existing and future capacities and resources, including the financial resources, needed for the initiation and implementation of TSLs.

Tasks

- Evaluate current planning practices and identify strengths, weaknesses, and opportunities to tailor the TSL to the local context.
- Identify gaps in knowledge, skills, and technology that may hinder the transition process. Assess and define capacities within the leading organisation.
- Conduct an inventory of existing resources, infrastructure, and expertise in the region.
- Define capacities for TSL development and implementation potentially addressing skill gaps through trainings, collaborations, recruitment, or subcontracting to enhance capacities related to climate transition and relevant sectors. Explore available training and knowledge gathered in the TRANSFORMER Knowledge Hub.
- Assess the availability and accessibility of funding sources and financial capacities and identify new sources of potential funding. Make informed decisions based on the budgetary frameworks while maintaining realistic expectations.
- Facilitate communication among the members to ensure smooth coordination and foster collaboration and knowledge sharing.

Timing and coordination

- This activity is needed at the beginning, with results to be considered for setting up effective working structures, especially in the core team. It might take several weeks to conduct this activity.
- Barriers may be considered in Phase 3 of the roadmap, particularly while defining and agreeing on priorities and responsibilities.

Activity 1.4: Promote political and institutional ownership

Gaining political and institutional support enhances the visibility and credibility of the TSL process, encouraging cross-sectoral collaboration and access to essential resources. By securing an endorsement from political bodies and key institutions, the TSL may gain access to funding, expertise, and stakeholders, thus facilitating a more comprehensive and impactful transition strategy. This activity serves as a bridge between the TSL and relevant decision-making bodies, creating an environment conducive to effective planning, implementation, and resource allocation.

Objectives

- Secure political and institutional support for the TSL development process to enhance its credibility effectiveness and political legitimacy.
- Ensure the availability of financial resources by obtaining political support for accessing funding and, ideally, securing funding opportunities.
- Promote collaboration among various sectors addressed in the TSL by fostering institutional ownership, encouraging cross-sectoral partnerships, and leveraging shared goals.
- Facilitate access to specific stakeholders by establishing institutional connections, thereby enriching stakeholder engagement and expertise.

Tasks

- Engage with local, regional and state government officials and policymakers to secure their commitment to TSL development.
- Engage with different international financial institutions, donor organisations or international institutions for possible funding opportunities.
- Seek endorsement or support from key decision-makers.
- Form partnerships with relevant government agencies or departments to ensure coordination and alignment.
- Establish clear lines of communication and decision-making processes within the political and institutional framework.

Timing and coordination

- Engagement with political and institutional stakeholders should start early in the TSL development process to ensure alignment with their agendas.
- Regular interactions and consultations with relevant bodies should occur throughout the development process to maintain engagement and secure necessary approvals.
- The collaboration with political stakeholders should be integrated into the overall TSL timeline to align with critical milestones and funding cycles.

Activity 1.5: Conceptualise the vision

Based on the lessons learned from TRANSFORMER TSLs, a high-level conceptualisation of the vision for the TSL development at the earlier stage could be beneficial for future steps in the roadmap, such as Step 2 - Building the stakeholder coalition. It is worth mentioning that this vision should not be as detailed or elaborated as it is co-created in Step 3 of the roadmap, but rather a rough idea or collection of ideas that would primarily support the TSL in guiding future processes and communication in different phases.

Objectives

- Have an initial idea or collection of ideas for the future of the regional transition. This activity could also be optional and the TSL could choose to skip it and concentrate on vision development in Step 3.

Tasks

- Considering the results of Activity 1.1 to Activity 1.4, define a high-level conceptual vision or collection of regional transition visions to serve as the basis for discussions in Step 2 of the roadmap.

Timing and coordination

- The initial collection of ideas should take place early in the project to support the TSL in the following activities.

3.1.2 Step 2: Build a stakeholder coalition

Climate-neutral regional transitions entail complex challenges that necessitate a diverse range of insights, skills, and resources for effective resolution. Engaging a broad spectrum of stakeholders with varied expertise, backgrounds, and ideas is crucial. This inclusivity fosters a comprehensive and co-creative approach, fostering innovative solutions that account for distinct stakeholder needs.⁷ Early involvement of diverse stakeholders in TSL inception significantly supports buy-in and support for proposed changes. This collaborative approach forms a solid foundation for subsequent stages, streamlining action plan creation and implementation (Phase 3). This proactive engagement guarantees stakeholder voices and perspectives contribute to a robust and successful transition process.

This is yet another important stage in TSL development, creating a coalition of stakeholders for collaboration and co-creation throughout the TSL development process. It encompasses activities to identify, map, and engage a diverse array of stakeholders and start defining their roles in the process. Coalition building involves groups with shared values, interests, and goals partnering to enhance collective power.⁸ The coalition building may start in Step 2 of the TSL process but continues through the transition process.

⁷ Frantzeskaki, N., and Rok, A. (2018). Co-producing urban sustainability transitions knowledge with community, policy and science [PDF file]. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2210422417306786>

⁸ Spangler, B. (2003, June). Coalition Building. Conflict Information Consortium.

The process identifies key stakeholders, clarifies their interests, roles and responsibilities develops a comprehensive engagement plan and initiates a TSL governance model definition. This uncovers essential participants, including diverse individuals and organizations. Understanding their contributions and impact, along with a structured engagement plan, builds support for successful TSL development and pilot use case implementation and transition outcomes.

Activity 2.1: Identify stakeholders with responsibilities

Stakeholder identification aims to ensure the inclusion of a diverse range of individuals, organisations, and entities that have a vested interest or are impacted by the TSL development. This inclusivity ensures that the perspectives, expertise, and needs of various stakeholders are considered and are not left out, resulting in more comprehensive and well-rounded decision-making. The Open Matchmaker tool (Toolbox 5) can be used for ensuring cross-sectorial background of the stakeholders as well as their engagement in the process.

The mentioned process also helps to ensure that the TSL aligns with their interests, objectives, and priorities. It enables a better understanding of the concerns, aspirations, and expectations of different stakeholders, allowing for the development of strategies that address their specific needs. This alignment increases the likelihood of stakeholder buy-in, support, and active participation throughout the TSL development and implementation phases.

Stakeholders can contribute with resources, including financial, technical, and human resources, that are essential for the success of the TSL. By identifying stakeholders, opportunities for resource mobilisation and collaboration can be identified and pursued, even at a later stage of the process, facilitating the allocation of necessary resources to support the TSL process and pilot use cases.

Identification of potential conflicts or divergent interests among different parties can also be achieved through this step. By understanding the landscape of stakeholders, conflicts can be anticipated and addressed through effective conflict resolution mechanisms. This proactive approach will help mitigate conflicts and foster constructive dialogue and collaboration among stakeholders.

Overall, activity is the initial step in stakeholder coalition building that lays the foundation for a participatory and stakeholder-driven approach, maximizing the potential for a successful and impactful TSL process.

Objectives

- Identify all stakeholders along the quadruple helix: academia, government, civil society and business/industry.
- Identify key stakeholders and veto players from the different sectors that the TSL will address.
- Identify their expertise and possible influence.
- Identify their interests and expectations.

Tasks

- Identify and list the stakeholders relevant to the Transition Super-Lab, including government agencies, community organisations, businesses, educational institutions, and residents.
- Initiate a first interest/influence matrix which will be finalised in Activity 2.2.
- Define the initial outline of responsibilities for the stakeholders.
- Consider all stakeholders who have an interest or influence in the transition process.
- Further effort in the identification of marginalised and vulnerable groups may be required to ensure the diversity of the stakeholder coalition.⁹
- Start by identifying and understanding their needs, as this will shape the strategies and actions moving forward.

Timing and coordination

- Refer to Activity 1.1 about the definition of the TSL's scope to identify stakeholders within this scope.
- Refer to Activity 1.2 regarding the assessment of the transition needs and potentials of the region and the sectors that require to be addressed by the transition.
- Finalise the interest/influence matrix in Activity 2.2.

Toolbox 5. Open Matchmaker

The matchmaking service acts as a facilitator, bringing together individuals who might not have naturally crossed paths during the event. By suggesting potential matches based on shared interests and professional backgrounds, it broadens participants' horizons and encourages diverse cross-sectorial connections. This diversity of connections opens doors to fresh perspectives, collaborations, and partnerships that could lead to innovative projects or ventures. Moreover, event matchmaking services play a critical role in fostering post-event follow-ups and continued engagement. After the event has concluded, participants can maintain contact with their newfound connections through the platform. This seamless transition from event to post-event networking allows collaborations to flourish beyond the event's timeframe, enabling ongoing communication, knowledge exchange, and potential joint cross-sectorial initiatives. The process of using event matchmaking services is straightforward. Attendees create their profiles, providing relevant information about themselves, their expertise, and their preferences for potential connections. The platform then suggests suitable matches based on these profiles, empowering attendees to send requests for meetings or connect directly with those who align with their networking goals.

This tool can also be used in Activities: 2.2, 7.1, 8.1, 9.1, 11.2, 11.3



⁹ Marginalised groups, according to the European Institute for Gender Equality (2023), are those facing discrimination based on factors like sex, gender, age, ethnicity, religion, health status, disability, sexual orientation, gender identity, education, income, or geographic location. In contrast, the United Nations Human Rights Office of the High Commissioner, in their publication on vulnerable people within the European Union and International Human Rights Law (n.d.), defines vulnerable individuals as those who do not speak the national language of their residing country. This category encompasses children, individuals with mental, emotional, or physical disabilities, people with dependents, those who are illiterate, asylum-seekers, and individuals dependent on drugs or alcohol.

Activity 2.2: Map stakeholders

After identifying all relevant stakeholders, it is essential to map them within the TSL ecosystem to be able to involve them in the process. By mapping stakeholders based on their power and influence, practitioners can establish key relationships and effectively engage with them.

First, practitioners can use a power/influence matrix (Toolbox 6) to map all stakeholders, determining their significance and potential impact on the TSL. This helps prioritise stakeholders based on their importance, influence, and level of interest in the TSL process. Understanding stakeholders' needs is essential for practitioners, allowing them to tailor strategies that meet their expectations and motivations.

Practitioners should also consider the positive impacts of the TSL, such as environmental benefits and economic advantages like cost reduction and job creation in green sectors. As the process includes different stakeholders with different perceptions of transition processes, it will be important to clearly define expectations of their contributions through face-to-face discussions. This could be achieved through defining the broad categories of stakeholder's roles (such as provider of tools and data for building common understanding creation, capacity for conflict solving, implementer, conditions creator, stakeholder engagement lead, etc.) during the transition process.

By mapping stakeholders, and their relationships as a basis for cross-sectorial synergies and analysing their roles, practitioners would ensure effective engagement, alignment of interests, and the development of value propositions. This practical approach fosters collaboration and ensures diverse perspectives are integrated into the TSL, leading to a successful implementation.

Objectives

- Identify opportunities for resource mobilisation and collaboration.
- Identify the specific roles that stakeholders could play within the coalition.
- Map stakeholders within the coalition in terms of their roles, influence and interests.
- Define a value proposition for stakeholders.

Tasks

- Sufficient time should be dedicated to analysing the identified stakeholders to gain a deeper understanding of their interests, roles and responsibilities, influence and expectations on the transition process. Categorise stakeholders based on their potential level of involvement and impact on the transition process. By mapping out the veto players and having an adapted strategy for them, potential conflicts and challenges can be anticipated and addressed proactively.
- Visualise the stakeholder network and connections to understand the broader ecosystem. Prioritise stakeholders based on their importance, roles, influence, and level of interest in the TSL. Classify them accordingly, such as stakeholders important for securing feasibility, those involved in implementation, veto stakeholders, those impacted by the implementation, and transition facilitators.
- Define a value proposition for each group of stakeholders, highlighting how the TSL contributes to climate transition.

Timing and coordination

- The identification of stakeholders (Activity 2.1) is essential to proceed with the mapping of stakeholders (Activity 2.2). It is, however, possible to run these activities in parallel.
- Activity 2.2 should help in the activities taking place under Step 7 when practitioners will strengthen stakeholder engagement to prepare for the definition of the action plans.

Toolbox 6. Power/Interest Matrix

The Power/Interest Matrix is a strategic tool utilized within the Transition Super-Lab (TSL) to assess and prioritise stakeholders based on their influence (power) and level of engagement (interest) in advancing regional efforts towards climate neutrality and sustainability. TSL employs the Power/Interest Matrix to map out stakeholders involved in or affected by regional transformation initiatives. Power in the context of the matrix refers to the stakeholders' ability to influence decisions, allocate resources, or shape project outcomes. High-power stakeholders exert significant influence and may include government officials, industry leaders, or influential community members. Interest represents stakeholders' level of engagement, concern, or stake in the project's success. Stakeholders with high interest are typically those directly impacted by the outcomes or those passionate about sustainability and climate issues.

This tool can also be used in Activity: 7.1



Practice Example 2. Stakeholder Mapping

The stakeholders were identified by TSLs through the utilisation of the quadruple helix mapping canvas, whereas the power/interest matrix was applied for the identification of civil society stakeholders.

Emilia-Romagna, with its strong top-down approach, identified different stakeholders from the quadruple helix aiming at a participatory and co-creation approach to define various scenarios and pathways to climate neutrality for its respective TSL. Lower Silesia aimed at a bottom-up strategy engaging local authorities, industry experts and community representatives in collaborative processes for addressing transportation and energy challenges. Additionally, the TSLs in Ruhr Area and Western Macedonia adopted dynamic and flexible coalition-building processes with robust regional stakeholder participation.



Activity 2.3: Elaborate on possible TSL governance model

After identifying stakeholders' responsibilities, and mapping the relevant stakeholders for the TSL, practitioners need to develop a workable governance proposition for how the TSL's stakeholders will work together in a lasting and self-sustaining way. The entity leading the process should collaborate with stakeholders to establish such a TSL governance.

One particularity that needs to be considered – for practitioners experienced in Living Lab methodologies, as well as unexperienced practitioners – is that the TSL approach broadens Living Labs from the local to the regional scale. This creates numerous challenges, for instance: the complexity of required knowledge(s) regarding the sustainability transition of a whole region, the difficulty to ensure inclusiveness of discussions and decision-making, the necessity to balance multiple local needs with regional needs, and the difficulty to make governance arrangements manageable. Therefore, in order to give directions for the development of a TSL governance model we have developed a blueprint for the roles and responsibilities within a TSL, based on experiences from the TRANSFORMER project. We recommend using the TSL governance blueprint provided in Figure 3 as a stylised organigram for discussing and defining the roles and responsibilities in the TSL region.

TSL governance blueprint

In the following, we depict a **blueprint for four governance bodies within a governance arrangement** describing their roles and responsibilities:

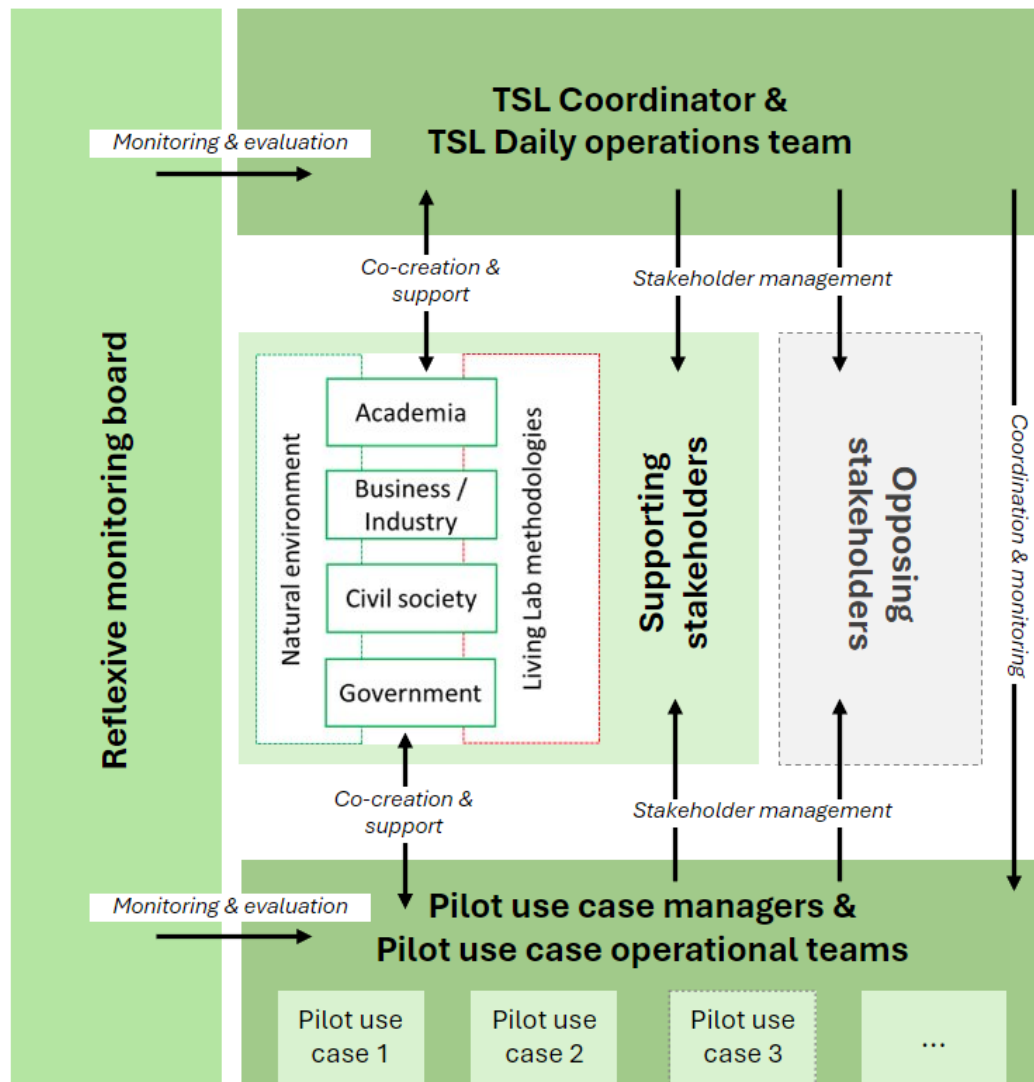


Figure 3. Stylised organigram of TSL governance blueprint.

Stakeholder coalitions

As we have previously discussed when presenting the TSL approach, a TSL consists of a supporting stakeholder coalition, which should be formed with the idea of bringing together stakeholders from all four realms of the quadruple helix: business, academia, policy, and civil society. This coalition of stakeholders has the task of generating ideas and innovations for the portfolio of transition projects of the TSL by using Living Lab methodologies. They will also recommend which of the possible ideas should be part of the portfolio of pilot use cases. This stakeholder coalition is not a fixed set of people or organisations, but a fluid construct that works with a modular approach. Stakeholders from the different pilot use cases of the TSL will be part of this coalition. However, this is not an exclusive situation, but it is possible to integrate other organisations or even unorganised civil society. Depending on the different thematic framings for pilot use cases, new interest groups might become stakeholders – in the sense of having a stake in the process – for future pilots. Thus, this coalition should be seen as a constantly evolving network of people and organisations, which are essential in pushing the transition goals of the region forward. Checking if all relevant and necessary stakeholders are part of the TSL coalition is part of the tasks of the Reflexive Monitoring Board and part of the organisational responsibilities of the TSL coordination team (see descriptions below).

Selecting the initial stakeholders when forming the coalition for the first time can be done either in a more top-down or a more bottom-up approach. A top-down fashion entails to bring in a set of regional players which are relevant to the region’s transition and form ideas for transition project “from scratch”. These project ideas form the basis for selecting additional stakeholders for the coalition (e.g., process in Emilia-Romagna). A more bottom-up approach is to take a small number of existing concrete transition project ideas or even transition projects which are in their implementation process and select the stakeholders from these projects to form the initial coalition (e.g., process in Western Macedonia). One of the lessons learned from the initial coalition building in the TRANSFORMER project is that the bottom-up approach has the advantage that stakeholders from concrete pilot use cases feel a strong identification with their project and are, therefore, more easily motivated to engage in the TSL process. However, there can also be combinations of both approaches, and for the continuous development of the coalition, a modular process of identifying additional pilot use case ideas and involving possible stakeholders are key requirements.

For the formation of the coalition, it is also important to keep in mind the political legitimacy of the TSL process (Criteria for developing a successful governance model is provided in Table 1 below) and to select stakeholders which are relevant to the TSL’s overall goal (of reaching climate neutrality), but also represent a wide and inclusive variety of voices. Moreover, it is important to ensure that people with the necessary expertise for the realisation of the transition projects, as well as those with a broader understanding of the transition needs and potentials of the region, are at the table.

TSL coordination

A TSL requires a small team that coordinates and manages the TSL activities. This team considers the transition needs and potentials of the entire region, as well as the specific pilot use cases. Tasks for the **TSL coordination and management team** are the control of TSL actions (milestones and completion of tasks) and resources, the development of a value proposition for participation of the coalition stakeholders, management of the TSL's supporting stakeholder coalition and strategic decision making regarding day-to-day business. Another task of the coordination team is the anticipation of future challenges and hurdles for the transition projects, including the design of strategies for managing veto players in the pilot use cases.

We recommend the TSL coordination team to have a small regular budget for financing staff costs to ensure clear responsibilities and the continuity of the coordination work. However, we also recommend keeping the team small and agile.

The TSL coordination team needs to embody a specific skill set (see also criteria list for successful TSL governance): It needs stakeholder engagement capacities, sustainability transition management skills and the ability for systems thinking. Additionally, and very importantly, the coordination team needs regional planning capacity and ideally authority. This is important because pilot use cases, no matter what their specific thematic framing, typically connect to regional planning in terms of the regulatory framework, conditions and/or funding possibilities. Staff from a regional planning agency are a good fit for the TSL coordination team. The TSL coordination team should also be knowledgeable in how to put together transition projects and how to go about the organisation of funding for such undertakings. Concrete funding schemes for transition projects will in many cases, however, need to be put together by thematic experts.

Reflexive Monitoring Board

As a third essential element for the TSL's long-term governance, it's crucial to introduce a specific body that can take over the task of reflexive monitoring of the TSL process. The Reflexive Monitoring Board's task is to monitor whether actions taken in the TSL as a whole align with regional transition goals. The monitoring boards consistently needs to question if the transition projects actually match the expectation of bringing down GHG emissions in the region, and if there is additional action that would be advised to reach this goal or if adjustments should be made. This regards transition-related content such as the monitoring and evaluation of the pilot use cases, but also the TSL processes: the board also advises the TSL coordination team on whether all necessary stakeholders are represented in the TSL's stakeholder coalition.

Regarding the concrete personnel structure of the Reflexive Monitoring Board, firstly, we recommend a close working relationship between the TSL coordination team and the Reflexive Monitoring Board, since the coordination team has the essential information and overview about the TSL process and state of transition projects running at each point in time. However, to ensure that the monitoring board is effectively able to reflect on the direction of the TSL process, a certain distance to the day-to-day business is sensible.

The capacity for such a reflexive mindset requires a specific expertise in various connected fields, for instance: capacity of system thinking and an understanding of sustainability transitions, policy analysis, a

broad understanding of stakeholder engagement and social inclusion, spatial planning capacity, economic development and innovation management, data analysis and interpretation, evaluation methodologies and risk assessment. For locating people with these capacities, we recommend looking at stakeholders from academia.

Moreover, we recommend holding regular reflexive monitoring meetings and to document the process of decision making and reflection to be able to access this information at a later stage. To really have an effect on the TSL process, it is important that the Reflexive Monitoring Board has the capacity to make strategic interventions in the TSL process, for instance, to commission evaluation studies for specific pilot use cases from engineering experts or to be able to initiate workshop-interventions with stakeholders when the overarching goals of regional climate neutrality gets derailed in the day-to-day “busy-ness”.

Pilot management

Each of the pilot use cases needs an internal operational management structure that may significantly differ from the overall TSL governance (depending on the complexity and scope of the project). However, every pilot use case needs to have at least one responsible organisation/person (Pilot use case coordinator/manager) that interacts with the TSL coordination team. Otherwise, it should have an organisational structure that is suited to the tasks necessary to achieve the projects objectives.

Objectives

- Identify a governance model that accommodates the region's institutional and socio-economic context, promoting cross-sectorial collaboration and conflict resolution among stakeholders.
- Critically reflect on the proposed governance structure.

Tasks

- Examine the institutional, socio-economic, and political landscape of the region to understand governance challenges and opportunities. The results of the PESTEL analysis from Activity 1.2 could be evaluated again in this activity from a different perspective.
- Create an organigram for the TSL, defining responsibilities according to the **TSL governance blueprint** depicted above, within the initiating organisation and possible stakeholders of the TSL. Toolbox 7: Governance Canvas provides a tool for governance model planning and Practice Example 3 provides input from governance models of the TSLs.
- Discuss if the blueprint fits your region’s requirements for a TSL and what changes to the blueprint are suitable for your situation. Critically reflect on the proposed governance model of the TSL by (1) taking the “Checklist criteria for developing a successful governance model” (Table ???) and (2) by using the "Models of Governance" canvas developed by ENOLL to evaluate various governance models applicable to TSLs (see knowledge hub box below). Analyse the strengths and weaknesses of different models in the context of TSL objectives and regional needs.
- Identify stakeholders’ roles, responsibilities and contributions within the TSL framework to be taken up in the elaboration of the stakeholder engagement and communication plan in the next activity.

- Formulate strategies to facilitate inter-departmental coordination, ensuring harmonised implementation of climate-neutral solutions.
- Recognise that governance arrangements may change over time and require continuous review and adjustment to accommodate evolving needs.

Timing and coordination

- This activity should serve as a basis for the elaboration of the stakeholder engagement plan developed in the next Activity (see Activity 2.4).
- Due to the evolving nature of the TSL and its stakeholder engagement, the TSL governance model will be further refined in Activity 7.3.

Table 1. Criteria for developing a successful governance model

Checklist of criteria for developing a successful governance model
<p>From the experience in the transformer project, we recommend that practitioners consider the five following criteria when developing a feasible governance model for their TSL.</p> <ol style="list-style-type: none"> 1. <u>Political legitimacy of the TSL process</u> A TSL cannot and is not supposed to substitute or be in conflict with existing democratically legitimised governance structures within a region, but it should have a complementary function. It needs to be in close coordination and exchange with (if not organised by) democratically legitimised governance bodies of or within the region. The most important aspect of this criterion is inclusiveness. Inclusiveness and working with diverse stakeholders enable different voices to be part of the inception of ideas. Inclusiveness also entails the possibility to strive for an equitable distribution of benefits and burdens of a sustainability transition.¹⁰ Moreover, inclusiveness connects to an important principle of Living Lab methodologies, which is that diverse minds bring about better ideas. 2. <u>Reflexive monitoring capacity</u> Ambitious systemic innovation efforts – as TSLs are – have very challenging monitoring and evaluation requirements. The overarching goal here is to maintain reflexivity in the process. In comparison to result-oriented monitoring typical in classic project management, which aims to create accountability in the reaching of predefined goals, reflexive monitoring aims to develop new ways of acting, and its ultimate goal is to learn how to contribute to system innovation. Reflexive monitoring deals with the uncertainties of such a process. Therefore, reflexive monitoring stimulates a collective learning experience and aims for fundamental systemic change. Without this capacity, possible systemic change

¹⁰ Ciplet, David; Harrison, Jill Lindsey (2020): Transition tensions: mapping conflicts in movements for a just and sustainable transition. In: Environmental Politics 29 (3), S. 435–456. DOI: 10.1080/09644016.2019.1595883.

achieved by a TSL at best remains coincidental, at worst no fundamental change in the region is achieved.¹¹

3. Lean organization and low financial requirements

Large-scale societal transitions are complex processes and often take several decades to complete (Köhler et al., 2019). When thinking about a durable implementation of TSLs, we need to keep this timeframe in mind. Often, regions, especially those with the most pressing transition needs, have very limited resources (e.g., Western Macedonia). The cross-sectorial governance of a TSL should therefore ideally require little financial means. However, a small continuous budget for coordination and for the organisation of workshops ensures clear responsibilities and continuation of the work.

4. Continuous and unbureaucratic access to financial means for transition projects in the region

To ensure that the cross-sectorial governance arrangement of the TSL can operate, access to funding for transition projects in the TSL's portfolio needs to be possible. Only a proven track record of a TSL to realise a variety of transition projects can ensure a continuation of the TSL in its entirety. This requires substantial political backing of transition efforts in the region as well as at the national level.

5. Diverse, cross-sectorial expertise

As discussed above, TSLs take regions as a starting point and aim their work at launching a sustainability transition for that specific geographical scope. Addressing the regional scale with a Living Lab approach means that the thematic scope of a TSL includes a wide range of topics and technologies at the same time. Therefore, it is important to include a diverse set of experts within the coalition to ensure that the cross-sectorial essence of a TSL can be properly organised. In other words, cross-sectorial work requires the possibility to tap into different kinds of expertise along the way.

We are aware that in practice, fully complying with all these criteria may be challenging, as some of the criteria might conflict with each other in real life scenarios (e.g., ensuring inclusiveness for political legitimacy, and keeping the costs low can be conflictive since more stakeholders often means more investment in time and money). Nevertheless, it is important to strive to fulfil these criteria when defining TSL governance arrangements.

¹¹ van Mierlo, Barbara; Beers, Pieter J. (2020): Understanding and governing learning in sustainability transitions: A review. In: *Environmental Innovation and Societal Transitions* 34, S. 255–269. DOI: 10.1016/j.eist.2018.08.002.

van Mierlo, Barbara; Regeer, Barbara; van Amstel, Andre; Arkesteijn, M.C.M.; Beekman, Volkert; Bunders, Joske et al. (2010): *Reflexive monitoring in action. A guide for monitoring system innovation projects*. Wageningen/Amsterdam: Wageningen UR, Communicatie en Innovatiestudies; WUR; Athena Institute, VU.

Toolbox 7. Governance Canvas

Implementing governance models poses several challenges to the performance and sustainability of Living Lab constellations. The Governance Model Mapping Canvas that has been developed by Fernando Vilariño from CVC-UAB (CVC-UAB Website: <https://www.cvc.uab.es/>) to address these challenges, can be also applied to TSLs to assist them defining suitable governance models tailored to their specific needs. This canvas guides TSLs in addressing key questions related to participants, financial contributions, decision-making processes, communication strategies, and participant benefits. The elements defined in the canvas can provide input also in Activity 1.2 for evaluating the capacities of the leading organisation in terms of knowledge, skills and available technology and are essential for later refining the governance structure of the TSL in Activity 7.3.



Practice Example 3. Possible TSL Governance Model

A first attempt to identify their governance model was performed by the four TRANSFORMER TSLs by using the Living Lab mapping canvas that integrated elements from the governance canvas asking TSLs to define their host organisation and their possible governance structure. Additionally, the exercise facilitated an evaluation of their capacities in terms of knowledge, skills and available technology.

Emilia-Romagna identified the ITL Foundation and the Emilia-Romagna Region as co-host organisations of the TSL while the governance structure of the Lower Silesia TSL is composed of the Lower Silesian Development Fund (DFR), Dumni z Lubina and University of Warsaw. The Business Metropole Ruhr (BMR) was suggested at this stage as the host organisation of the Ruhr Area TSL with RUB being one of the key stakeholders of the TSL. Finally, the Western Macedonian TSL will be coordinated by ANKO with the support of CERTH. Apart from Emilia-Romagna, all TSLs have made an initial assignment of the responsibilities between the co-hosting entities. In the case of Emilia-Romagna, this assignment has yet to be finalised.



Activity 2.4: Develop a stakeholder engagement plan

To effectively develop a TSL, it is crucial to establish a stakeholder communication and engagement plan, as this will support practitioners throughout the TSL development process.

It is necessary to define a clear strategy for stakeholder engagement. Before reaching out to stakeholders to start the co-creation process, it is important to identify the communication approach for different stakeholders. This would include defining the communication channels, strategies and approaches with respective stakeholders, determining the number of workshops required, setting goals for each workshop, and establishing a work plan and timeline.

Managing expectations and providing incentives are also essential aspects of the strategy. Additionally, it is important to determine which stakeholders should attend specific workshops and establish how

stakeholders will be kept updated on the progress and process between workshops. Identifying desired outcomes and defining strategies to achieve them are also important components of the engagement plan.

Building a stakeholder coalition is an ongoing and complex process that requires a clear strategy. Outlining the objectives and expected outcomes for the coalition-building process is essential. At this stage, it is important to consider what can be achieved and set realistic expectations. This will aid in identifying the right audience to involve and selecting suitable participation and co-creation methodologies. Familiarising oneself with co-creation methodologies is a necessary step to ensure effective stakeholder engagement.

When establishing a coalition, it is important to be inclusive and not limit participation to only those who are recognised as leaders or have an acknowledged mandate for action. It is crucial to be open to the involvement of so-called "unusual suspects" to achieve a diverse and representative coalition.

To ensure the input of different stakeholders, a combined effort is required to set the agenda for the TSL development process. The entity leading the process should collaborate with stakeholders to establish a co-creation approach. An agile approach should be adopted, finding a balance between top-down and bottom-up participation. This approach needs to be developed from a local perspective that is more relatable and considers the specific context of the region. Practitioners should re-evaluate if this approach is in alignment with having a regional perspective while considering the local contexts.

Objectives

- Develop a robust stakeholder communication and engagement plan to facilitate seamless interaction throughout the TSL development process. Define clear strategies for stakeholder engagement, ensuring appropriate approaches for diverse stakeholders.
- Align stakeholders' expectations by establishing achievable goals and outcomes for the co-creation process.
- Form a diverse and representative stakeholder coalition, including "unusual suspects," to foster comprehensive engagement. Consider setting up a core group of key stakeholders to ensure participation at all times in the TSL process.
- Create a flexible co-creation approach that balances top-down and bottom-up participation, respecting the regional context.

Tasks

- Determine the goals, objectives, and desired outcomes of stakeholder engagement for each step of the TSL process. Design a detailed work plan outlining the sequence of workshops, activities, and milestones. Define which stakeholders attend specific workshops and establish methods for progress updates.
- Identify the appropriate methods and channels for engaging with different stakeholder groups.
- Familiarise stakeholders with various co-creation methodologies to ensure effective engagement.

- Develop a communication plan to keep stakeholders informed and engaged throughout the TSL development process.
- Develop mechanisms to manage stakeholders' expectations and create incentives for engagement.
- Establish feedback mechanisms to collect input, address concerns, and incorporate stakeholder perspectives.
- Develop an agile co-creation approach, aligning with the regional context and balancing participation modes.

Timing and coordination

- It is essential to finish planning the main involvement activities before initiating the next phases of the TSL process, to ensure that all stakeholders involved in the coalition are aware of the upcoming activities and steps.
- While the coalition is built during Step 2 of the TSL process, stakeholders will be involved throughout the entire TSL process. As the TSL is being developed, changes to the stakeholder communication and engagement plan may arise. Therefore, practitioners should remain flexible and able to adapt the plan while communicating it clearly to the stakeholder coalition.
- Make sure to involve citizens in important decisions of selected steps (Step 3). Citizen engagement might be more successful when done well in selected activities instead of trying to involve them in too many activities.

3.1.3 Step 3: Co-define a common vision for the TSL

Developing a common vision (Activity 3.1) and objectives (Activity 3.2) is foundational in creating a TSL, engaging stakeholders from the start, aligning goals, enhancing communication, and harnessing diverse expertise. Involving stakeholders promotes inclusivity and generates a sense of ownership. It concentrates efforts on measurable outcomes, guiding resource allocation, strategy, and performance evaluation. This collaborative approach builds a dynamic, effective TSL, adaptable to change and driving a meaningful regional transition.

Activity 3.1: Co-create a common vision

The establishment of a shared vision within the realm of TSLs is not only a conceptual exercise but an essential activity that fundamentally shapes the trajectory of regional transformation while providing a clear set of goals, direction alignment and collaboration among the key stakeholders. A TSL vision is an ideal representation of the future of the region that captures a common understanding of the desirable and transformative direction towards a sustainable society.

A coherent and collectively endorsed vision delineates the direction of progress. The creation of such a vision cultivates alignment, fosters collaboration, and orchestrates concerted efforts among diverse stakeholders. Offering a shared point of reference mitigates fragmentation and ensures that the entire stakeholder community is synchronised in their aspirations and actions.

The journey towards a common vision commences once the regional's transition needs and potentials are comprehensively analysed (Step 1), and the relevant stakeholders are identified (Step 2). This juncture marks the inception of a collaborative process where these stakeholders are convened to collectively articulate the contours of the desired future – a future that encapsulates the challenges and aspirations of the region. By involving stakeholders from the outset, this process capitalises on any existing visions outlined in strategic plans, enriching them with diverse perspectives and insights. One of the tools for this activity could be the 5 Bold Step tool (Toolbox 8).

Crucially, this collaborative vision-building phase catalyses cross-sectoral collaboration. It enables stakeholders who might not have traditionally collaborated to forge connections and articulate a shared purpose. In this context, potential conflicts of interest can be proactively addressed, fostering mutual understanding and alignment, all of which are integral for a successful, sustained transformation. In cases where a vision might have been sown through earlier exercises involving specific stakeholders, this groundwork can then be amplified and confirmed with the broader stakeholder coalition, harmonising the vision across diverse perspectives.

However, the endeavour of crafting a vision is not devoid of challenges. The inherent nature of TSLs, simultaneously regional and having a complex stakeholder engagement process, introduces intricacies that demand deft navigation. While regional authorities hold a central role in catalysing TSLs, the bottom-up principle should be the cornerstone of the stakeholder engagement process, in alignment with the top-down processes being used simultaneously.

Navigating the journey of vision development entails an evolution from abstract ideals to tangible milestones. While broad, general discussions might seem daunting, concreteness offers a more targeted approach to thematic TSL development. Working with sub-visions that augment the broader vision with tangible ideas has proved fruitful in contextualising the vision's impact in the context of TRANSFORMER. Implementation of the Citizen Assemblies (Toolbox 9) could serve as one of the tools for the smooth implementation of the process.

Objectives

- Open the participatory and interactive process including diverse stakeholders from the coalition.
- Identify a clear, comprehensive and common TSL vision, and potential sub-visions, reflecting the dynamic and innovative aspects of a TSL.
- Establish a collaborative environment that encourages cross-sectoral engagement, fostering connections and synergies among stakeholders who might not have traditionally collaborated.
- Proactively identify and address potential conflicts of interest among stakeholders during the vision-building process, ensuring alignment and understanding before progressing further in the transition process.

Tasks

- Facilitate workshops or meetings with diverse stakeholders to collectively define a shared vision for the transition.
- Encourage open dialogue and collaboration to ensure that the vision reflects the aspirations and priorities of all stakeholders.
- Arrange thematic working groups with certain stakeholders to define sub-visions if necessary.
- Use visual aids, storytelling, or other creative techniques to help stakeholders visualise and articulate their ideas.
- Document the common vision clearly and concisely so that can be easily understood and communicated to others.

Timing and coordination

- Activity 3.1 builds upon the results of Step 1, mainly the identification of transition needs and potentials, and Step 2, mainly on the identification of stakeholders and their interests and role in the regional transition process.

Toolbox 8. 5 Bold Steps

The 5 Bold Steps canvas is a dynamic co-design tool ideal for advancing the vision and strategic pathways within the Transition Super-Lab (TSL) framework. This canvas empowers diverse stakeholders—universities, municipalities, businesses, and civil society organisations—to collectively shape and refine their vision for achieving a climate-neutral future in their region. In the context of TSL's collaborative efforts, the 5 Bold Steps canvas serves as a structured framework to:

Co-design the Vision: TSL stakeholders collaboratively articulate a compelling vision for transitioning their region towards climate neutrality, aligning aspirations with concrete objectives.

Identify 5 Bold Steps: Through interactive workshops, participants identify and prioritise five transformative actions or initiatives crucial for realising the shared vision. These bold steps serve as actionable milestones within the regional transformation journey.

Assess Supports, Challenges, and Opportunities: The canvas facilitates a thorough examination of factors influencing the vision's success, including identifying key enablers (supports), potential obstacles (challenges), and emerging prospects (opportunities) arising from pursuing climate neutrality.

Derive Design Criteria: By clarifying the vision and bold steps, TSL stakeholders derive essential criteria for developing innovative business models and strategic frameworks tailored to the region's unique needs and opportunities

This tool can also be used in Activity: 3.2



Toolbox 9. 5 Citizens Assemblies

In the context of the Transition Super-Lab (TSL) initiative, Citizens' Assemblies represent a mechanism for fostering inclusive and informed decision-making towards achieving climate neutrality within regions. A Citizens' Assembly operates as a deliberative democracy model, engaging members of the public in meaningful discussions on critical policy questions related to climate change and sustainable development. By integrating Citizens' Assemblies into the TSL framework, stakeholders can harness the diverse perspectives of the public, advancing collaborative efforts towards a sustainable and climate-neutral future for the region. This approach strengthens democratic processes, promotes transparency, and fosters community resilience in the face of climate challenges. Compared to other tools, implementing Citizen Assemblies are time and resource intensive.



Activity 3.2: Co-define goals and objectives

After formulating the shared vision through collaboration with stakeholders, practitioners can proceed to delineate concrete objectives that signify the desired transformative outcomes. Establishing these objectives plays a vital role in clarifying the targeted changes and improvements sought within the region. By defining these objectives, the focus shifts to precisely identifying the necessary alterations, thereby enhancing the clarity of the transformation process.

The process of defining objectives carries a systemic and cross-sectoral significance, intricately woven into the fabric of regional transition. This strategic alignment serves as a vital resource for subsequent stages, particularly during the development of pilot use cases within the TSL framework (Steps 5 and 6). Crafting objectives that span various sectors and systems facilitates the seamless integration of these goals into the pilot use case formulation process, fostering a cohesive and integrated approach to transformation.

The inclusion of stakeholders in the objective-setting process is paramount to ensure the acknowledgement and acceptance of the identified priorities. This collaborative approach not only deepens the engagement of key players but also positions the TSL process to move closer to the definition and realization of the pilot use cases. The Deliberative Forums approach (Toolbox 10) can be one of the tools that could support TSL in this process.

In essence, this activity of defining main goals and objectives encapsulates the essence of the shared vision, channelling it into specific, actionable directions. By establishing these objectives, practitioners lay the foundation for a coordinated, inclusive, and impactful transformation journey.

Objectives

- Identify what the TSL should achieve, accounting for all aspects of the common vision and all sectors involved in the TSL.
- Formulate clear objectives and strategic priorities to specify the direction for improvement.

Tasks

- Based on the common vision, analyse which improvements it outlines. Assess and define the desired improvements together with stakeholders. Align the goals and objectives with the broader sustainability and development agendas of the region when they exist. Prepare and follow up by holding stakeholders' workshops and meetings to ensure their buy-in and sense of ownership of the TSL. Define strategic objectives for all the themes that reflect the needs of stakeholders and citizens in the region.
- Define clear objectives to guide the development of pilot use cases in Step 5. Specify what objectives should be achieved and how they are relevant to the regional transition. If possible, specify how these objectives can be easily measured and if a timeframe applies to them.
- Prepare a thoughtful communications strategy to communicate shared vision, goals, and objectives with various stakeholders.

Timing and coordination

- This activity builds on the common vision (Activity 3.1) and leads to the definition of scenarios and transition pathways (Step 4).
- This activity may be run in parallel with Activity 3.1.

Toolbox 10. Deliberative Forums

Deliberative forums are spaces where a topic is brought up in a way that invites participants to carefully contemplate lock-ins, actions, and strategies forward to a problem in a constructive manner. In the context of climate-energy-mobility, topics may cover reducing dependence on fossil fuels, promoting alternative modes of transportation, just renewable energy transitions or climate mitigation/adaptation strategies. Forums are typically kept small and can either consist of a range of actors or a specific group of participants with knowledge on particular issues. By integrating Deliberative Forums into TSL activities, stakeholders collaborate to navigate complex challenges effectively. These forums cultivate trust, foster mutual understanding, and catalyse the co-creation of innovative solutions tailored to regional contexts.

This tool can also be used in Activities: 4.1, 5.1



3.1.4 Step 4: Build scenarios and transition pathways

A scenario can be defined as a structured framework comprising various feasible pathways aimed at achieving a desired vision. It involves considering different possibilities and assessing the potential pathways to determine the most suitable approach. Pathways are specific routes of actions taken to reach the vision with a structured approach.

Scenarios can play a vital role in guiding sustainable transitions as they support practitioners in anticipating change, challenging current systemic practices, creating urgency, bridging perspectives and facilitating paradigm shifts. Scenarios surface potential shifts in society, aiding practitioners in anticipating

and preparing for changes in political, economic, and social landscapes. Transition scenarios prompt a shift away from unsustainable practices, encouraging the exploration of alternative pathways. Deliberation over desirable sustainability pathways and targets underscores the urgency for action, emphasising the bridge between the present and the future. Transition scenarios bridge the common long-term vision with short-term actions, aligning overarching objectives with immediate steps.¹²

Activity 4.1: Co-identify different scenarios

This activity presents both opportunities and challenges. Developing scenarios is pivotal for envisioning possible pathways towards achieving the TSL's objectives and vision, offering insights into potential transition trajectories. However, building scenarios within a TSL framework involves certain challenges. Determining the optimal number of scenarios to develop is crucial. Too few scenarios might limit the exploration of diverse strategies, while an excessive number can lead to confusion and resource constraints. It's essential to strike a balance that allows for comprehensive exploration without overwhelming stakeholders. Incorporating the TSL's vision and objectives adds complexity, as scenarios must align with these foundational elements while remaining adaptable to various future possibilities. Careful consideration is needed to ensure that the scenarios are consistent with the TSL's overarching aims. Furthermore, the participatory nature of TSLs necessitates engaging stakeholders in co-identifying scenarios. This collaborative process can yield diverse perspectives and insights but also demands effective facilitation to manage varying opinions and expectations.

Objectives

- Collaboratively explore a range of potential scenarios that align with the TSL's overarching vision and objectives, allowing stakeholders to collectively envision diverse futures. The Walt Disney Method (Toolbox 11) can be a starting point tool for further enhancement of scenario planning.
- To ensure that the developed scenarios are contextually relevant to the specific regional circumstances and challenges addressed by the TSL, taking into account the region's specific characteristics.

Tasks

- Conduct scenario planning exercises to explore various possible futures for the region. This can be done within the TSL working group, with a few selected stakeholders or the stakeholder coalition as a whole.
- Explore possible future developments of the most relevant external factors for regional and cross-sectorial transition. Consider current trends and likely changes as projected by recent experts within the stakeholder coalition. Consider also less likely but highly disruptive changes that would heavily influence different sectors in your region. Identify different factors and uncertainties that may

¹² Sondejker, S., Geurts, J., Rotmans, J. and Tukker, A. (2006), "Imagining sustainability: the added value of transition scenarios in transition management", *Foresight*, Vol. 8 No. 5, pp. 15-30. <https://doi.org/10.1108/14636680610703063>

influence the transition process, such as technological advancements, policy changes, or socio-economic shifts.

- Develop several scenarios that describe alternative policy priorities among the selected sectors of the TSL and their impacts on a strategic level with the stakeholder coalition. Practitioners should develop at least three scenarios:
 - A business-as-usual scenario that describes the development forecasted if the current policy direction is continued and only measures that have already been planned are implemented.
 - Alternative scenarios that describe forecasted developments resulting from different strategic policy priorities. Such scenarios show the contributions of different policy directions, helping practitioners define what to put the most emphasis on. It is recommended to include only sustainable policy directions, as the business-as-usual scenario already allows the comparison with a less sustainable scenario.

Timing and coordination

- Refer to Activities 1.1 and 1.2 to align the scenarios with the identified scope of the TSL, as well as the transition needs and potentials.
- Refer to Activities 3.1 and 3.2 to ensure that the vision and objectives are considered when building the scenarios. The scenario development accompanies the development of the vision and objectives and may be developed in parallel with Activities 3.1 and 3.2.

Toolbox 11. Walt Disney Method

The Walt Disney Method offers a sophisticated strategy to foster creativity and problem-solving within regional transformation initiatives towards climate neutrality. Developed by Robert Dilts, this method embraces the notion of harnessing diverse thinking styles—dreamer, realist, and critic—to engage stakeholders effectively. In the context of a TSL, where universities, municipalities, businesses, and civil society collaborate, the Walt Disney Method becomes a powerful tool for innovation. It enables participants to adopt different perspectives sequentially:

Dreamer Phase: Stakeholders unleash their creativity, envisioning ambitious ideas and possibilities for transitioning to a climate-neutral future within their region.

Realist Phase: Participants shift into a practical mode, evaluating dreamer-generated ideas with a focus on feasibility and implementation strategies. This phase ensures that visionary concepts are grounded in realistic considerations.

Critic Phase: The method incorporates critical thinking, where stakeholders analyse and refine proposed plans, addressing potential challenges and refining strategies to enhance their effectiveness.

This tool can also be used in Activities 3.1, 3.2, 4.1, 4.2, 5.1



Activity 4.2: Select scenario and pathways

This activity is guided by the specificity of a TSL's cross-sectorial approach, necessitating the exploration and evaluation of multiple pathways within a chosen scenario. This activity entails a collaborative dialogue within the stakeholder coalition to deliberate on various scenarios and their potential impacts. By presenting diverse prospective futures and engaging stakeholders in reflective discussions, a collective comprehension of the available options for the future emerges. This process not only fosters a shared awareness of the intricate interdependencies and trade-offs across sectors but also underscores the complexity of strategic decisions and risks inherent in the transition. Working collaboratively, the stakeholder coalition endeavours to attain a mutual understanding of the most desirable scenario.

Subsequently, multiple pathways are conceived to achieve this preferred scenario, reflecting the coalition's commitment to shaping a sustainable and effective transition. This activity can be done through a SWOT analysis or similar analyses for purposefulness, feasibility, sustainability and risk aspects thus providing a clear image of enablers and barriers for each pathway contributing to the selection of the most suitable pathway. Through this activity, stakeholders align their aspirations, build consensus, and chart a course that maximises the likelihood of achieving the TSL's overarching vision and objectives.

Objectives

- Facilitate well-informed decision-making within the stakeholder coalition by presenting a range of scenarios, and collectively assessing them.
- Work collectively to design multiple pathways (A/B Testing tool can be adopted for this measure; see Toolbox 12) that lead to the selected desirable scenario, exploring a range of strategies and actions for achieving the envisioned future.
- Recognise the need for ongoing adaptation and refinement of pathways as new information emerges or circumstances change, ensuring the transition strategy remains flexible and responsive.
- Establish transparent communication channels to relay scenario outcomes, pathway details, and rationale to the broader stakeholder community, enhancing understanding and accountability.

Tasks

- Define and select the scenarios and possible pathways ahead considering previous analysis and accounting for the local context and challenges as well as political landscape.
- Engage with specific stakeholders to discuss the scenarios. Try to reach typically underrepresented groups to ensure the representation of opinions in the selection of a scenario and multiple pathways. Citizens and civil society can be engaged through different means by being informed, surveyed or represented during stakeholder workshops. Evaluate and analyse the identified scenarios to understand their feasibility and potential impacts.
- Prepare a SWOT analysis or similar analyses for purposefulness, feasibility, sustainability and risk aspects.
- Once the scenario is chosen, develop multiple transition pathways that will help outline the specific actions, strategies, and milestones required to achieve the desired outcomes at a later stage of the process. Consider different approaches and strategies for each pathway to provide flexibility and

adaptability in the transition process. Consider already identifying which stakeholders are key for each transition pathway.

Timing and coordination

- This activity should build on the scenarios defined in Activity 4.1 and consider the results of Activities 1.1, 1.2, 3.1 and 3.2.

Toolbox 12. A/B Testing

A/B testing, a method commonly used in digital experimentation, can be adapted within the framework of the Transition Super-Lab (TSL) to assess and optimize strategies for achieving climate neutrality and sustainable development within regions. This approach allows for evidence-based decision-making by comparing the effectiveness of different approaches or interventions in advancing TSL's objectives. A TSL can strategically apply A/B testing to compare and evaluate different interventions or solutions aimed at promoting climate neutrality. For example, testing alternative transportation modes, energy-saving technologies, or community engagement strategies to assess which yields better outcomes.

This tool can also be used in Activity: 5.1



Knowledge Hub Box 4. SWOT-Proxy Analysis for Purposefulness, Feasibility, Sustainability and Risk Aspects

As soon as the different transition scenarios/pathways are co-identified, the methodology of SWOT analysis can be used as a proxy for identifying purposefulness, feasibility, sustainability and risks aspects of each scenario. This methodology through dedicated questions to stakeholders results in SWOT-like schemes that provide a clear image of enablers and barriers of each scenario/pathway helping TSLs to select the most suitable scenarios and pathways. The suggested methodology contributes to the finalisation of the use cases (Step 5) using a bottom-up approach and the examination of the feasibility of the pilot use cases (Step 6).

Link in the Knowledge hub: [SWOT-proxy analysis for purposefulness, feasibility, sustainability and risk aspects](#)



Practice Example 4. Visions and Pathways

The approaches to defining the visions with the stakeholders, as well as the identification of the pathways to achieve the objectives of these visions, differed in Transition Super-Labs. In the case of Western Macedonia, the vision and the pathways were already pre-defined based on the goals of the Western Macedonia Territorial Just Transition Plan. So, Western Macedonian TSL presented and discussed the vision and the pathways with the stakeholders combining a top-down and bottom-up approach, rather than co-creating them from scratch. For the pathways, the SWOT-proxy analysis was successfully used.

In contrast, the Ruhr Area TSL employed a more of a bottom-up approach, with co creation methods and through engagement with various stakeholders. The processes and approaches used to develop the vision are detailed in deliverable 3.2 Definition of Transition Super-Lab use cases.



Activity 4.3: Assess the transition readiness of the region

Activity 4.3 aims to prepare TSLs to evaluate the transition readiness of regions. Assessing the transition readiness provides valuable insights into the region's preparedness to embark on a climate-neutral transformation journey. By systematically analysing different dimensions of readiness, this activity offers regions a comprehensive understanding of their strengths and weaknesses, fostering informed decision-making, targeted interventions, and the alignment of TSL efforts with regional needs.

This assessment forms a foundation for guiding regions towards a successful transition process and enabling them to leverage the benefits of the TSL ecosystem. Furthermore, this activity includes the qualitative assessment of various elements that characterised the transition-ready ecosystems such as governance and fusion, openness and greenness, transparency and cross-sectorial collaboration, regulations and economy, infrastructure, technology and tools and civil society and stakeholders. Finally, the stakeholders develop core elements for TSLs that are aligned with the methodology for assessing the efficiency and success of the transition process towards climate neutrality of Activity 1.2, enhancing their strategic approach to monitoring and evaluation.

Practitioners will be able to conduct this activity by taking up the Transition Readiness Assessment Framework which has been developed in TRANSFORMER and includes a Transition Readiness Self-Assessment Tool. The outline of the tool is also provided in Knowledge Hub Box 5 below. Through dedicated questions, the tool assesses the region's transition readiness providing a Transition Readiness score (at both total and element level). The tool also encompasses a methodology for identifying the weak points of the region related to its transition readiness. This latest allows for a comparative assessment with benchmark and other regions, highlighting areas of concern that fall below the average performance. These results combined with the outcomes of the QRAFT methodology (Activity 1.2) provide valuable input to regions on what they should focus on to achieve a speedy and successful transition.

Objectives

- Conduct a thorough evaluation of the transition readiness of the region by analysing various elements of readiness, identifying the weak points, considering the progress and further refinement of the TSL in the previous steps.
- Collaboratively develop core indicators at the strategic level that will guide the TSLs' monitoring and evaluation efforts throughout the transition process. These indicators support the implementation of the methodology for assessing the efficiency and success of the transition process towards climate neutrality that started in Activity 1.2.

Tasks

- Familiarise all stakeholders with the developed TRANSFORMER Transition Readiness Framework and its methodology.
- Gather necessary data and information about each region's governance structure, policy framework, stakeholder engagement, technological infrastructure, economic status, and social readiness.
- Utilise the Transition Readiness Self-Assessment Tool to calculate scores for elements and sub-elements based on responses to relevant questions. Perform a quantitative assessment of transition readiness for each region and identify its weak points, including the calculation of mean, median, standard deviation, minimum, and maximum scores.
- Organise a stakeholder workshop to validate the results of the Transition Readiness Self-Assessment Tool, discuss the region's strong and weak points, benchmark the region against other regions' transition readiness and gain insights on a way forward.
- Collaboratively define core indicators at the strategic level that align with TSL objectives and transition goals. Ensure that these indicators cover essential aspects of the TSL process and its impact on regional transformation and are aligned with the methodology for assessing the efficiency and success of the transition process towards climate neutrality of Activity 1.2.

Timing and coordination

- This activity builds upon the results of the QRAFT and the methodology for assessing the efficiency and success of the transition process towards climate neutrality from Activity 1.2.
- It provides a foundational framework for the development of indicators in Activity 6.1 related to pilot use cases.
- It serves as a cornerstone, to which reference will be made in Activity 11.3.

Knowledge Hub Box 5. Transition Readiness Self- Assessment Tool

The Transition Readiness Self-Assessment of the region is a comprehensive systemic approach that identifies the elements and sub-elements required for a region to be considered transition ready. It assesses aspects related to Governance and Fusion, Openness and Greenness, Transparency and Cross-Sectorial Collaboration, Regulation and Economy, Infrastructure, Technology and Tools and Civil Society and Stakeholders.

The TSLs are able to use the Transition Readiness Self-Assessment tool, developed within the TRANSFORMER project, that consists of a set of qualitative and quantitative questions to be answered. The results of the tool outline the total level of transition readiness of the region as well the level of each element and sub element through a comparative assessment with benchmark and other region's transition readiness. It also identifies the region's weak points and provides recommendations on how to increase the region's transition maturity for speeding up the transition towards climate neutrality.

The Transition Readiness Assessment Tool is considered as an iterative tool that the TSL would ideally use from the beginning of the process in the development of possible pathways/scenarios as well as during the other steps of the Roadmap, such as Activity 11.4, when a reassessment of the region's transition readiness takes place.

The tool is available online at [Transformer - Transition Readiness Tool](#)



Milestone

As this phase draws to a close, a significant milestone is reached in the progression of the transition process – Phase 1, "Assess and Build the Transition Capacities," has been completed. Throughout this phase, critical groundwork has been laid, and comprehensive assessment steps have been undertaken, resulting in a deep understanding of the regional transition needs, challenges and framework. Concurrently, robust working structures and stakeholder coalitions have been forged, setting the stage for the development of a tailored TSL strategy. This strategy encompasses a common vision, precise objectives and goals, and a scenario and strategic pathways for the regional transition.

Collaborative efforts with key stakeholders have fostered a shared understanding of the primary challenges and opportunities that punctuate the regional landscape. This collaborative endeavour extends its reach to include influential stakeholders and local decision-makers, thereby solidifying acceptance, fostering accountability, and providing a firm foundation for the impending gearing of the regional transition.

3.2 Phase 2: Gearing the transition capacities



Milestone: Setting the ground for the operational stage

With this second phase, the TSL development focuses on gearing regional transition capacities by collaboratively defining pilot use cases, their goals and targets while setting the ground for implementation in terms of stakeholder engagement and the governance of the TSL.



Figure 4. Phase 2 of the TSL development process

3.2.1 Step 5: Co-define pilot use cases

In the fifth step of the TSL process, pilot use cases, that are central to TSL implementation, are collaboratively defined to achieve climate neutrality and drive systemic transformation. Engaging relevant stakeholders is central to this step, establishing a strong coalition that enhances the pilot use case definition.

This step, which is a crucial preparatory measure for subsequent phases, co-defines goals, objectives and targets for each pilot use case, aligning them with the TSL's overarching objectives. Goals establish essential groundwork, ensuring each use case remains focused and purpose-driven, facilitating tailored action plans. These agreed-upon objectives and targets serve as a compass for monitoring progress and

impact, offering tangible measures of success and identifying areas for improvement. This collaborative goal-setting not only ensures a structured implementation phase but also enhances the potential for desired impact, guiding actions, fostering collaboration, and promoting a sustainable and transformative transition.

Activity 5.1: Identity pilot use cases with stakeholders

Pilot use cases, as defined in TRANSFORMER, offer a goal-oriented set of interactions between different actors, allowing for the comprehensive exploration of pertinent issues and resources essential for the development of TSLs. Additionally, these use cases serve as real-life experiments, facilitating concept refinement and practical implementation.

TRANSFORMER has developed the following characteristics for pilot use cases:

- They contribute to the goal of climate neutrality (according to agreed visions and scenarios).
- They provide a potential for systemic transformation.
- They have been co-created and will be co-implemented.
- They define a goal-oriented set of interactions between actors across sectors.
- They help identify all relevant issues and resources for the development of Transition Super-Labs.
- They have a regional character, going beyond merely local solutions and have an expected value for the region.
- They are real-life experiments and follow innovative approaches, which serve for the concept development and its implementation in practice.

Objectives

- Collaboratively identify pilot use cases that contribute significantly to the overarching goal of achieving climate neutrality, aligning with agreed-upon visions, scenarios and pathways.
- Pinpoint pilot use cases that hold the potential to instigate systemic transformation across various sectors, fostering an integrated approach to regional sustainability. Select pilot use cases that possess a regional character, surpassing local solutions to generate regional value and impact.
- Ensure that the pilot use cases as a portfolio have synergies between them and are cross-sectorial to help overcome barriers to implementation and exploit these synergies.
- Embrace innovative practices that contribute to the conceptual evolution of sustainable practices.

Tasks

- Foster active participation of stakeholders in brainstorming sessions to identify potential pilot use cases that seamlessly align with the overarching transition vision, objectives, selected scenario, and transition pathways. This process should actively incorporate diverse stakeholder input and perspectives to ensure an inclusive and comprehensive range of pilot use case possibilities.
- Organise interactive discussions and workshops (Toolbox 13 and Toolbox 14 provide the possible tools for engagements) that strategically identify geographic and thematic areas within the region where

pilot use cases can yield the most impactful outcomes in terms of achieving climate neutrality and instigating systemic change.

- Institute sustainable mechanisms for ongoing engagement with stakeholders, ensuring a consistent process of assessment, enhancement, and fine-tuning of the selected pilot use cases. This approach values and incorporates stakeholders' insightful inputs and suggestions throughout the entire lifecycle.
- Apply a structured approach to prioritise pilot use cases based on their potential to generate impact, feasibility, and alignment with the shared vision and goals. The selection process should identify combinations that enhance each other's effectiveness and ensure mutual reinforcement.
- Scrutinise the selected pilot use cases to ensure they comprehensively address all designated objectives, including the consideration of potential externalities that might arise from their implementation.
- Maintain meticulous documentation capturing the rationale behind each pilot use case selection, inclusive of stakeholder feedback, and a transparent account of the decision-making process. This documentation ensures transparency and accountability while enabling a clear retrospective analysis of the selection journey.
- Re-assess the overall political and landscape assessment as started in Activities 1.1 and 4.2 to have aligned pilot use cases.

Timing and coordination

- Utilise the findings from Activities 1.1, 1.2, and 4.3 to validate that the chosen pilot use cases effectively address the challenges and requirements of the regional transition towards achieving climate neutrality.
- Guarantee that the selected pilot use cases are meticulously developed and collaboratively agreed upon, encompassing sufficient details to facilitate the seamless progression to the subsequent activity.

Toolbox 13. Brainwriting

Brainwriting is a tool for generating ideas and solutions to a problem. TSL utilises Brainwriting to systematically gather ideas and solutions from participants on specific questions or challenges related to sustainability and climate action. Each participant independently writes down their thoughts on sheets of paper within a designated timeframe. After the initial writing phase, participants pass their papers to others who read the ideas and build upon them by adding new insights or perspectives. This iterative exchange process encourages cross-pollination of ideas and stimulates creativity through diverse inputs.

This tool can also be used in Activity: 8.1



Toolbox 14. Delphi Exercise

The Delphi Exercise harnesses expert knowledge and consensus-building to inform future policies, practices, and research directions towards regional sustainability and climate neutrality. A TSL leverages the Delphi Exercise to engage a group of experts representing diverse disciplines and perspectives relevant to sustainability and climate action. These experts contribute insights and foresights through iterative surveys and interactions. The Delphi Exercise facilitates horizon scanning by identifying emerging trends, priorities, and innovative directions for future policy, practice, or research within TSL. This structured approach exploits collective intelligence to anticipate challenges and opportunities. Through multiple survey rounds and engagements, the Delphi Exercise allows for the iterative refinement of recommendations and consensus-building among experts. TSL benefits from a systematic process of refining insights and shaping actionable strategies. The Delphi Exercise adapts to changing contexts and emerging insights over time. By returning to the same group of experts through surveys and interactions, TSL continuously updates its foresight approach based on evolving expert perspectives.



Activity 5.2: Identify goals, objectives and targets for pilot use cases

In the pursuit of effective and targeted transformation, it is crucial to set clear and specific goals, objectives and targets for each pilot use case within the TSL framework. These goals provide a focused direction, ensuring that the efforts invested in each use case contribute meaningfully to the broader transition objectives. Defining measurable and time-bound goals with their respective objectives and targets not only facilitates tracking progress but also fosters a sense of accountability and ownership among stakeholders.

Objectives

- Establish precise and well-defined objectives for each pilot use case, outlining the desired outcomes and impacts.
- Determine the key aspects that need to be monitored to assess the progress and effectiveness of each pilot use case.
- Establish specific and attainable targets for each pilot use case, aligned with their objectives and indicators.

Tasks

- Collaborate with stakeholders to identify the intended outcomes of each pilot use case. Develop clear and specific goals that reflect the overarching vision of the TSL while addressing the specific challenges of each use case.
- Empower stakeholders to take ownership of the goals by involving them in the decision-making process. Foster a sense of commitment among stakeholders towards the successful realisation of the goals.

- Ensure that the goals and objectives of each pilot use case are aligned with the broader transition objectives of the TSL. Verify that the goals contribute directly to the regional climate neutrality and systemic transformation agenda.
- Ensure that the defined goals are measurable, enabling the assessment of progress, success and impact. Set time-bound targets that establish milestones for tracking the advancement of each pilot use case.
- Document the established goals and objectives for each pilot use case, detailing their alignment with the TSL's vision and objectives. Communicate the defined goals to all stakeholders to promote transparency and shared understanding.
- Define clear and specific targets and milestones for each pilot use case. These targets should be tailored to the objectives and indicators previously established. Set both quantitative and qualitative targets that effectively capture the desired outcomes of the pilot use cases. These targets should be discernible, enabling straightforward assessment of progress and impact.
- Ensure that the defined targets are realistic and achievable within the context of the pilot use cases and the regional transition goals.
- For the comprehensive impact assessment of the pilot use cases, use the Evidence-Based Impact Assessment Methodology (see Knowledge Hub Box 6).

Timing and coordination

- Practitioners should refer to Activity 3.2 to ensure that the goals of the pilot use cases align with the overarching goals of the TSL.
- This activity will serve as a basis for Activities 6.1 and 6.2. Practitioners may want to consider conducting all activities in Step 6 in parallel due to their iterative nature.
- This activity will provide the groundwork for the monitoring and assessment of results and impacts (see Activity 10.2).

Knowledge Hub Box 6. Evidence Based Impact Assessment

A methodology for conducting evidence-based use case impact assessments has been developed within the TRANSFORMER project. This methodology is directly linked to Activity 6.1 and 6.2 and will be further elaborated upon in Activity 10.2 of the roadmap. In essence, the objective of this six-step approach is to guarantee a systematic and standardised impact assessment for the pilot use cases. The initial step in the methodology is to identify the anticipated impact categories, which are then followed by the precise definition of key performance indicators. The third step defines the baseline scenario, which is then followed by the To-Be scenario and an analysis of the impact determinations. The methodology concludes with the formulation of conclusions and an overall impact determination.

More information on the Evidence Based Impact Assessment can be found in deliverable 5.2 Framework for Super-Labs Assessment

Link to the Knowledge hub: [Evidence Based Impact Assessment](#)



Practice Example 5. Pilot Use Cases

The objective of the four TRANSFORMER TSLs was to accelerate the transition to climate neutrality and to meet the overarching goals of the TSL implementation, with a view to doing so through the co-design of pilot use cases.

Emilia-Romagna concentrated on the mobility and energy initiatives, with a particular emphasis on integrated planning, the utilisation of technology and stakeholder engagement. Lower Silesia utilised the Discrete Choice Experiment (DCE) methodology to gather feedback from citizens, aiming to integrate public participation methods in decision making for enhancing the convenience and environmental sustainability of transport connections.

Furthermore, the Ruhr Area considered a series of workshops that resulted in the development of innovative use cases focusing on the utilisation of hydrogen as an energy carrier. More specifically, the use cases included the transfer of H₂ to be used in the industry, the heating of the neighbourhoods and the alignment of existing H₂ initiatives. In conclusion, the Western Macedonian TSL, in collaboration with various experts, developed use cases for the energy and mobility sectors, as well as for agriculture and the circular economy. Furthermore, all TSLs have defined clear goals, objectives and targets, as well as impact indicators, in alignment with the TRANSFORMER roadmap.

More details on the TSLs pilot use cases can be found in deliverable 3.2 Definition of Transition Super-Lab use cases.



3.2.2 Step 6: Examine the feasibility of the pilot use cases

Step 6 advances from Step 5's finalisation by crafting indicators for the co-defined objectives and targets of pilot use cases. These objectives, targets, and indicators guide progress monitoring, making success measurable and identifying areas for improvement in later TSL stages. Once pilot use cases are selected with their goals, objectives, targets, and indicators, a thorough feasibility evaluation is paramount. This feasibility assessment involves scrutinising technical aspects like available technology, infrastructure, data accessibility, and compatibility. Operational feasibility, including personnel readiness, and economic viability, can be assessed through different methodologies such as cost-benefit analysis and financial backing exploration.

Activity 6.1: Define indicators for each pilot use case

Aligned with the region's transition readiness and guided by the established assessment framework (see Activity 4.3), this activity helps practitioners further elaborate indicators for their TSL at the pilot use case level, aligned with their objectives and targets.

The early agreement on indicators with stakeholders is of high importance, as this ensures that indicators are woven into the fabric of the implementation process, providing a continuous feedback loop that supports effective decision-making, progress assessment, and course correction. By undertaking this

activity, the TSL sets the stage for a well-informed, targeted, and successful pilot use case implementation journey.

By first identifying and defining these indicators, the TSL ensures a robust foundation for subsequent stages of the process. This approach guarantees that the chosen indicators are aligned with the TSL's vision and objectives while being practically measurable. Notably, by defining these indicators early in the process, the TSL can facilitate the seamless integration of monitoring and evaluation efforts as they become intrinsic components of the implementation journey.

TRANSFORMER's development of a comprehensive set of core indicators further bolsters this process. Drawing from this framework and potentially building upon strategic indicators established in previous activities (see Activity 4.3), the TSL can enhance its indicator selection process.

Objectives

- Define a set of indicators that allow for the monitoring of progress made towards the achievement of goals and targets for each pilot use case.
- Select easily measurable and understandable indicators by considering existing data sources (see Activities 1.2 and 5.2), standard indicators (see Activity 4.3) and TRANSFORMER Evidence-based use case impact assessment methodology defined in deliverable 5.1.

Tasks

- Create a comprehensive collection of indicators that precisely capture the performance and outcomes of each pilot use case. These indicators should be carefully selected to encapsulate the essence of the pilot use case's objectives, ensuring that they provide a comprehensive and accurate representation of their impact. The development of these indicators requires a deep understanding of the intricacies and goals of each use case, as well as a strong alignment with the broader transition objectives of the TSL.
- Select indicators that are not only directly relevant to the pilot use case's objectives but are also reliable and easily quantifiable. These indicators should possess an unambiguous link to the specific goals of the use case, ensuring that the measurements derived from them are meaningful and actionable. Moreover, selecting indicators that can be consistently and accurately measured over time is essential for generating trustworthy insights.
- Identify how the necessary data will be collected to measure each indicator's performance. Defining appropriate data collection methods and establishing a suitable frequency for data gathering is essential. Depending on the nature of the indicator, data might be collected through surveys, sensors, interviews, existing databases, or other means. This ensures a consistent and organised flow of data that supports effective monitoring.

Timing and coordination

- Connect the pilot use case indicators to the strategic indicators identified in Activity 4.3.
- This activity is linked to Activities 6.1 and 6.3. Practitioners may want to consider conducting all activities in Step 6 in parallel due to their iterative nature.

Activity 6.2: Examine the feasibility of pilot use cases

Once the selection of pilot use cases is complete and their goals, objectives, targets and indicators are set, it becomes essential to undertake a comprehensive evaluation of their feasibility. The TSLs must gather pertinent data to determine whether delving further into the pilot use case is warranted. This assessment entails a meticulous examination of various dimensions. From a technical perspective, considerations encompass the availability of requisite technology, infrastructure prerequisites, data accessibility, compatibility with existing systems, and the identification of potential technical hurdles or limitations. For the assessment of some of these systems, the Assumption Mapper tool (Toolbox 15) might be used.

In tandem with the technical aspects, the operational feasibility of the chosen pilot use cases needs to be scrutinised. This involves an evaluation of factors such as the availability of skilled personnel and the organisation's preparedness for change. Furthermore, a thorough assessment of the economic viability is imperative. By conducting a comprehensive cost-benefit analysis, the TSLs can gauge both short-term and long-term costs and advantages associated with the pilot use case. Exploring potential avenues for financial backing ensures the financial sustainability of the assessed pilot use case.

In this activity, it's also pivotal to identify legal, regulatory, and socio-economic factors that could potentially impact the implementation of the pilot use case. Factors like citizens' acceptance, political support, and other socio-economic considerations should be considered. Furthermore, the timeframe horizon for implementation should be established. This comprehensive evaluation process ensures that the selected pilot use cases align with technical, operational, economic, and regulatory parameters while being cognisant of potential challenges and opportunities.

Objectives

- Conduct a feasibility assessment of each pilot use case individually and ensure that selected pilot use cases align with technical, operational, economic and regulatory requirements at the TSL level.
- Finalise the portfolio of pilot use cases based on the results of the feasibility assessment and validation from the stakeholder coalition.

Tasks

- Evaluate the technical, economic, social, and environmental viability of each pilot use case. Assess the availability of necessary resources, technology, and expertise required for successful implementation.
- Identify potential risks, challenges, and barriers for each pilot use case.
- Synthesise the results of the feasibility assessment to determine the overall feasibility of each pilot use case. Prioritise the pilot use cases based on their feasibility and potential impact on regional transition goals.

- Test and appraise the identified pilot use cases in detail. Modify them based on the results to avoid unrealistic projects and ensure cost-effectiveness. Consider different assessment methods (e.g. cost-benefit analyses, multi-criteria analyses, etc.) and decide which one to use based on your experience, available resources and the types of pilot use cases to assess. Examples of feasibility study methods are further detailed in the toolboxes and knowledge hub boxes of this activity.
- Actively involve and get feedback from civil society and the proposed pilot use cases. They should be involved in their validation and final selection.
- Based on the assessment outcomes, stakeholder feedback, and alignment with regional transition goals, make a final selection of pilot use cases. Ensure that the selected pilot use cases demonstrate a high degree of feasibility and potential for impact.

Timing and coordination

- An interactive process takes place between Activities 5.1 and 5.2 to adjust the pilot use cases or identify new ones based on the results of the feasibility study of each pilot use case.
- Practitioners may have to use external professional expertise for this evaluation depending on the specificity of the pilot use case and the expertise available among the core stakeholders.

Practice Example 6. Feasibility Assessment

The complexity and nature of the feasibility studies for the pilot use cases, including the necessary human and financial resources, made it unfeasible for some TSLs to perform such an assessment for pilot use cases during the TRANSFORMER project. However, the Western Macedonian TSL was able to complete the assessment with the support of an external consultant. This examination encompassed the technical and operational feasibility, as well as the financial and economic aspects, including a cost-benefit analysis. A risk assessment was also conducted for the pilot use cases. Preliminary technical feasibility was also conducted for pilot use cases in Ruhr Area, while defining when to perform a detailed study during the implementation of the project.



Toolbox 15. Assumption Mapper

The Assumption Mapper serves as a strategic tool within the Transition Super-Lab (TSL), aimed at systematically identifying, prioritising, and validating key assumptions related to the desirability, viability, and feasibility of innovative projects and interventions towards climate neutrality and sustainability. A TSL utilises the Assumption Mapper to identify critical assumptions underlying proposed projects or initiatives. By prioritising assumptions based on their potential impact on project success, TSL can focus resources on mitigating the most significant risks. TSL leverages the Assumption Mapper to assess the feasibility and viability of proposed solutions or interventions. By breaking down assumptions into testable hypotheses, TSL can systematically evaluate which assumptions are most critical and achievable within resource constraints.

This tool can also be used in Activity: 10.1



3.2.3 Step 7: Strengthen stakeholder engagement and governance

This step can be seen as an iterative loop to Step 2 of the TSL process. While Step 2 initially established a broad coalition of stakeholders for collaborative engagement, this phase aims to refine and consolidate this coalition as the TSL strategy crystallises and pilot use cases become defined. The purpose is to ensure that the current stakeholder coalition aligns with the evolving needs and objectives of the TSL, especially concerning the imminent pilot use case implementation. This iterative loop underscores the significance of adaptable and dynamic stakeholder engagement, one that evolves in sync with the transformation journey. If Activities 7.1 and 7.2 are skipped, it is still useful to tend to Activity 7.3.

Crucially, in cases where practitioners determine that their stakeholder coalition is comprehensive and no further additions are required, potentially bypassing Activities 7.1 and 7.2, it remains essential to focus on Activity 7.3. This step ensures that the existing stakeholder coalition maintains its strong alignment, active engagement, and readiness to undertake the roles associated with piloting use cases. This well-considered approach serves to nurture a robust network of backing and collective responsibility throughout the TSL journey, resulting in heightened efficacy during the execution of pilot use cases and the realisation of intended transition goals.

Activity 7.1: Map stakeholders for each pilot use cases

This activity is a strategic continuation of the stakeholder engagement process initiated in Step 2. As the TSL journey advances, the landscape of stakeholders and their relevance can shift. This activity acknowledges the evolving nature of the stakeholder coalition and focuses on identifying the specific stakeholders integral to the implementation of each pilot use case. By refining and customising the stakeholder groups based on their roles in the pilot use cases, this activity ensures a well-aligned and targeted approach. The iterative nature of this process ensures that the coalition remains robust and fit for purpose, enhancing its capacity to drive successful pilot use case execution.

Objectives

- Identify the key stakeholders relevant to each pilot use case, considering their potential contributions, interests, and influence.
- Evaluate the significance of stakeholders in terms of securing feasibility, facilitating implementation, potential veto power, impact, and role as a transition facilitator.
- Develop strategies for effectively engaging and mobilising stakeholders, fostering collaboration and shared commitment specific to the requirements of each pilot use case.

Tasks

- Reassess the stakeholder coalition considering the evolving landscape of the TSL and the strategic focus of the pilot use cases.
- Identify stakeholders for each pilot use case, categorising them based on their anticipated roles and involvement levels.
- Analyse stakeholder interests, influence, and resources to determine their potential contributions to each pilot use case.
- Tailor engagement strategies for each stakeholder group, ensuring their alignment with the aims and priorities of the pilot use cases.

Timing and coordination

- Start from the results of Activity 2.2 and update the TSL stakeholder map with new information.
- Coordinate with Activity 7.2 to ensure the developed stakeholder engagement strategy aligns with the value propositions and conflict resolution mechanisms.

Activity 7.2: Create value propositions and conflict resolution mechanisms

This activity acknowledges that sustained engagement requires clear value propositions for stakeholders, especially as their roles become more defined with the impending pilot use case implementation. This activity establishes a dynamic two-way relationship, articulating how each stakeholder group contributes to the transformation while clarifying their respective roles. Additionally, recognising potential conflicts that may arise due to divergent interests or expectations, this activity also underscores the importance of mechanisms to address such conflicts. This iterative loop ensures that stakeholders remain informed, engaged, and well-prepared to assume their roles in the pilot use case implementation.

Objectives

- Define and communicate the individual value propositions for each stakeholder group, highlighting the benefits they gain from participating in the TSL and contributing to the pilot use case implementation.
- Identify potential conflicts or disagreements among stakeholders and develop effective mechanisms to address and resolve these conflicts in the context of pilot use case implementation. Examples of conflict resolution mechanisms are provided in Knowledge Hub Box 7. These examples are well elaborated and can be found in the Knowledge Hub.

- Facilitate open dialogue and negotiation among stakeholders to ensure mutual understanding, alignment, and a shared vision of the value propositions and their contributions.

Tasks

- Develop clear and compelling value propositions for each stakeholder group, showcasing how their participation impacts the success of the TSL and the pilot use cases.
- Anticipate potential conflicts by analysing stakeholder interests and potential areas of contention.
- Design conflict resolution mechanisms that provide a structured and collaborative approach to address conflicts constructively.
- Facilitate discussions and engagement workshops where stakeholders can openly address concerns, clarify expectations, and negotiate potential conflicts.
- Ensure that value propositions and conflict resolution mechanisms align with the evolving strategies of the TSL and the specific needs of the pilot use cases.

Timing and coordination

- Start from the results of Activity 2.2 and update the TSL stakeholder map with new information.

Knowledge Hub Box 7. Conflict Resolution Mechanisms

There are different models and mechanisms for conflict resolution. The TRANSFORMER project has identified some of them as examples of good practices.

These examples include, 1) Thomas-Kilmann Conflict Mode Instrument (TKI), 2) Interest-Based Relational Approach (IBR), 3) Dual Concern Model, 4) Transformative Mediation Model, 5) the Circle Process, 6) Narrative Mediation model, 7) Nonviolent Communication (NVC) model and 8) Harvard Negotiation Project.

Link to the Knowledge hub for details and sources for each of these tools: [Conflict resolution mechanisms](#)



Activity 7.3: Refine the TSL governance model

As the pilot use cases of the TSL are further developed, their objectives, indicators, and targets become clearer, necessitating a re-evaluation of the TSL governance model to prepare for the sharing of the responsibilities for the pilot use cases implementation. The evolving nature of the TSL requires an iterative approach to the TSL governance refinement, ensuring that the model remains aligned with the emerging priorities and needs of the pilot use cases. This activity serves as a critical feedback loop, allowing practitioners to adapt the governance model to address the specific requirements of the pilot initiatives, enhance collaboration, and optimise decision-making processes.

Objectives

- Refine the TSL governance model to align with the objectives, indicators, and targets of the pilot use cases, ensuring that governance mechanisms support the achievement of desired outcomes.
- Identify opportunities to enhance cross-sectorial collaboration and stakeholder engagement within the refined governance model, enabling seamless coordination among diverse stakeholders.
- Evaluate the decision-making mechanisms within the governance model and tailor them to the evolving needs of the pilot use cases, promoting efficiency and effectiveness.

Tasks

- Assess the existing TSL governance model considering the pilot use cases' requirements. Determine areas where adjustments, enhancements or new governance needs are necessary to better accommodate the evolving priorities
- Carefully assess whether all relevant stakeholders are included in the governance arrangement of the evolved TSL (both at the TSL coordination and management level and the pilot use case level), and (re-)assess the roles of the stakeholders (interests/influence; expertise). Consider potential power imbalances arising from the involvement of pilot use case stakeholders, who may have significantly different levels of power and influence.
- Examine the decision-making processes outlined in the current governance model. Modify and tailor these mechanisms to ensure alignment with the specific decision needs of each pilot use case.
- Analyse the stakeholder engagement plan developed in the previous activity. Refine engagement strategies to address the specific stakeholder dynamics of each pilot use case.
- Assess the strategies for inter-institutional coordination within the governance model. Adapt coordination mechanisms to accommodate the interplay between different pilot use cases.
- Present the refined governance model to key stakeholders for validation and feedback. Incorporate insights and suggestions from stakeholders to enhance the model's effectiveness.
- Document the refined governance model, capturing changes and adaptations made. Communicate the updated model to all relevant stakeholders to ensure transparency and understanding.

Timing and coordination

- This activity serves as an iterative loop to Activity 2.3 to refine the governance model based on the new advancements in the TSL.

Practice Example 7. Refined Governance Models

The Emilia-Romagna TSL suggested that the TSL Coordinator group should be composed of a representative from each department of the Regional Authority (e.g. Territorial and environmental care, Sustainable Mobility, Transport and Logistics, Tourism, Productive activities). The Regional Authority should lead the TSL Coordinator group, and the Reflexive Monitoring Board of the Emilia-Romagna TSL is necessary for monitoring whether actions are in line with regional transition goals, oversees TSL processes, and provides guidance to the TSL management team on transition-related matters, as well as on coordination and management issues.

In the Ruhr Area TSL due to the complex regional context, there is no role model to follow. Thus, although different stakeholders have an important role in the region and could contribute to implementing the TSL in practice, it is still difficult to define a specific coordination team and Reflexive Monitoring Board.

In the Western Macedonian TSL, the Regional Authority of Western Macedonia, ANKO and CERTH constitute the Coordination and Management team, considering the transition needs and potentials of the entire region. Representatives of each party of the Coordination and Management team (Regional Authority of Western Macedonia, ANKO and CERTH) will form the TSL Daily Working Group. Representatives from the Regional Authority and CERTH will be members of the Reflexive Monitoring Board to ensure the alignment between the monitoring scheme and the Coordination and Management team. Moreover, regional key stakeholders from academia and civil society (e.g., the University of Western Macedonia and the Institute of Energy Development and Transition to the Post-Lignite Era), who could provide scientific and technical expertise in different fields, should also have an important role in the Reflexive Monitoring Board of the Western Macedonian TSL.

In the Lower Silesian TSL, the Coordination and Management team should be selected to maximise the likelihood of success for specific TSL tasks. Depending on the pilot use cases, stakeholders from academic institutions and the business sector, in addition to representatives from local and regional authorities, should be involved.

Detailed descriptions on the governance arrangements of the TSLs are included in deliverable 3.3 Transition Super-Lab Action Plan



Milestone

At the end of Phase 2, "Gearing Regional Transition Capacities," a significant achievement is made in the TSL development progress. During this phase, the TSL journey moved further into the operational stage. Collaboratively defined pilot use cases, crafted goals and targets, and a robust stakeholder engagement strategy have been the hallmarks of this phase. Practitioners have transitioned their vision into tangible action by collaboratively co-defining pilot use cases. By pooling insights from the previous phase, practitioners ensured that each pilot use case was custom-tailored to drive regional transition efforts.

Practitioners also established clear and comprehensive objectives, indicators, and targets for each pilot use case. The selection of indicators and targets provides a roadmap for measuring progress, creating a framework for continuous evaluation and improvement. Finally, practitioners displayed their commitment to fostering dynamic stakeholder engagement and robust governance including by refining the needed competencies. By mapping stakeholders, crafting value propositions, and addressing potential conflicts, practitioners honed a coalition of actors who are not only aligned with the TSL's vision but are also poised to actively participate in the upcoming implementation phase.

As Phase 2 concludes, the strategic groundwork has been laid, the pilot use cases to accelerate the shift towards the climate neutrality have been defined and their goals and objectives have been set, and the collaborative network is primed. These achievements serve as a cornerstone for the phase 3: Accelerating the transition to innovation.

3.3 Phase 3: Accelerating transition through innovation



Milestone: identification of innovative solutions and preparation/execution of action plan

The third phase of the project: Accelerating transition through innovation is initiated through commencement of current phase. The results of the TRANSFORMER project have informed the refinement of this phase, which has been further developed with the addition of new activities and the consolidation of existing ones. This has led to the formulation of precise and concrete actions for accelerating the work towards climate neutrality.

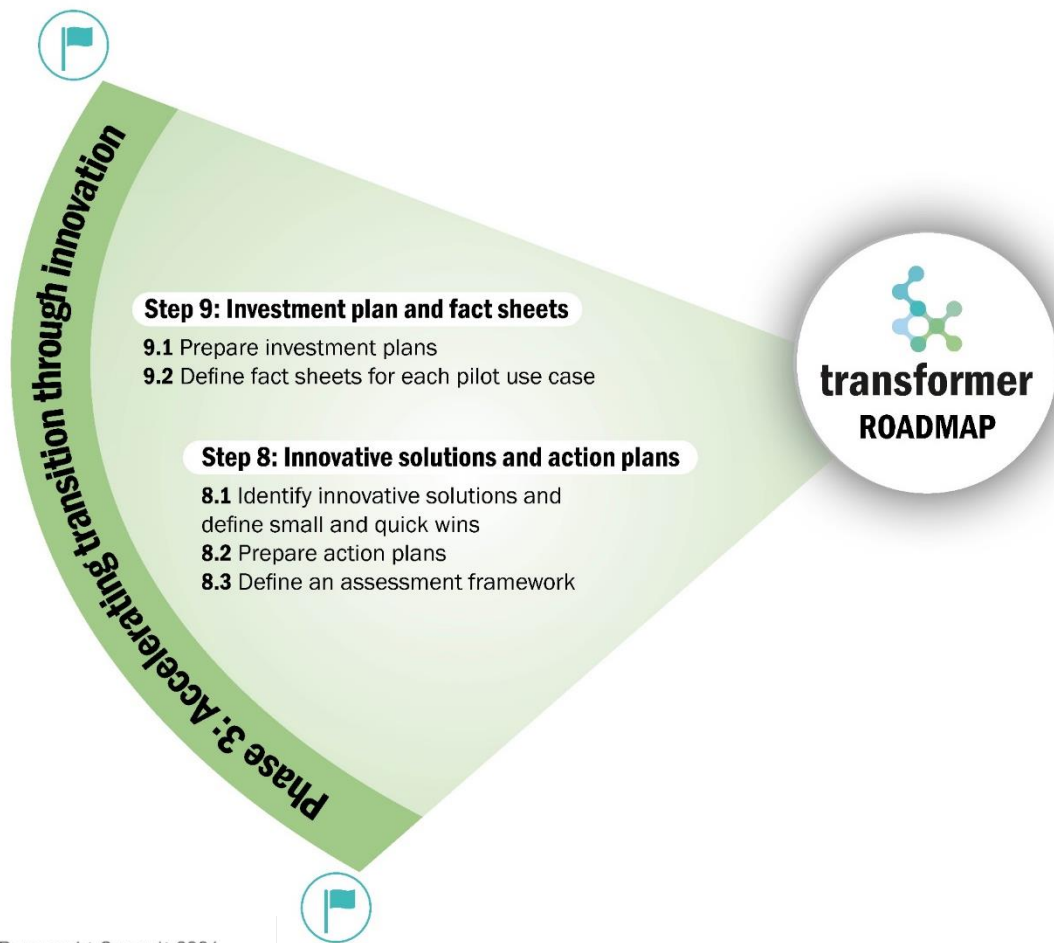


Figure 5. Phase 3 of the TSL development process

3.3.1 Step 8: Innovative solutions and action plans

Step 8 is regarded as a crucial step following the conclusion of the phase 2. At this stage in the process, the TSL has already engaged in the collaborative creation and assessment of the feasibility of its pilot use cases. Furthermore, the objectives and targets are established, and the measurement indicators are identified. The specific stakeholders and governance model associated with the pilot use cases are further refined, and the TSL is prepared to advance to the subsequent steps.

The importance of steps 8 and 9 is paramount, as they require TSLs to define their concrete actions with a corresponding investment plan to accelerate the transition to carbon neutrality and subsequently scale it up in Phase 4 of the transition.

Activity 8.1: Identify innovative solutions and define small and quick wins

This activity is geared towards accelerating the transition to climate neutrality by incorporating global best practices and innovative ideas that were already implemented, tested and evaluated in other regions and contexts. The “TSL team” should explore different practices and innovative ideas that could align with the pilot use cases they have identified in the previous steps and identify which lessons learned they could already gather within their TSLs. This will allow them to define a clearer hierarchy of solutions based on their potential impact within the local context.

In the context of regional innovation and transition, focusing on the idea of “small and quick” wins can be beneficial towards the long-term regional systemic transition. By focusing on small and quick wins guided by a bigger vision for change, further stimulation can emerge to distribute innovation efforts and foster more gradual yet deeper change towards the desired direction.¹³ Identifying these wins in preparation of the action plans can help define the actions in more details with the relevant actors and can reduce the level of opposition from established actors in agreeing to these small yet incremental steps. Small and quick wins, by accumulating, can steer the systemic transition of the region towards the direction identified by the TSL and can help achieve the vision more easily. Pareto Analysis (Knowledge Hub Box 8) or DMAIC process (Knowledge Hub Box 9) can be appropriate methodologies for achieving small and quick wins.

Objectives

- Identify national and international best practices in the transition fields the TSL wishes to address.
- Identify a methodology that fits the TSL needs to identify innovation solutions. This can be done through diverse methodologies, such as innovation mapping, hackathons or brainstorming techniques. B2B Rotation (Toolbox 16) can be one of the useful tools for meeting this concrete objective.

¹³ Termeer, C. J. A. M., A. R. P. J. Dewulf, G. Breeman, and S. J. Stiller. 2015. “Governance Capabilities for Dealing Wisely with Wicked Problems.” *Administration and Society* 47 (6): 680–710. doi:10.1177/0095399712469195.

- Explore emerging trends in the transition fields selected, identify experts or networks and connect with key stakeholders to learn more about their innovative solutions.
- Identify small and quick wins directed towards activities that occur more on the ground and would require upscaling.

Tasks

- Establish a clear hierarchy of solutions based on their potential impact on the regional transition and the vision as well as their relevance to the local context.
- Define small and quick wins that align with the previously identified pilot use cases, considering the different stakeholders involved and aligning these small wins with the needs and motivation of the key stakeholders.
- Make sure that these small and quick wins, combined, align with the vision of the TSL, the pilot uses, and the stakeholders involved in the process.

Timing and coordination:

- This activity can be conducted in parallel to Activity 5.1 when developing the pilot use cases as well as Activity 8.2 during the preparation of the action plans.

Toolbox 16. B2B Rotation

The B2B rotation with financial officers is an award contest and represents a unique opportunity for businesses to engage in a face-to-face matchmaking session with funding and financing experts. This event (full day or half day depending on the final content) is specifically designed to facilitate meaningful connections between entrepreneurs and financial professionals, enabling them to explore potential collaborations and secure the necessary resources for their ventures. The contest aspect of the B2B rotation adds an element of competitiveness and recognition, encouraging businesses to showcase their innovative ideas and solutions. By being awarded the opportunity to participate in this rotation, selected companies gain valuable visibility and a chance to present their projects directly to financial officers who have expertise in funding and financing.

The B2B rotation aims to create a conducive environment for collaboration and partnership-building between businesses and financial experts. It encourages in-depth discussions, allows for the exchange of ideas and perspectives, and provides a platform for entrepreneurs to gain valuable insights into the financial aspects of their ventures. Moreover, the rotation offers financial officers the chance to identify promising investment opportunities and establish connections with innovative businesses that align with them.

This tool can also be used in Activities: 9.1, 11.2, 11.3



Knowledge Hub Box 8. Pareto Analysis

The Pareto Analysis, as outlined in Activity 8.1 of the TRANSFORMER Roadmap, represents a strategic approach to identifying potential areas of improvement within the TSL process that can be addressed in a relatively short timeframe. This methodology employs the 80/20 rule to focus on the few causes responsible for the majority of transition problems (Voyansi, 2024). By focusing on the top 20% of causes that contribute to 80% of the issues, resources can be allocated efficiently. This ensures that TSL's efforts are directed where they can achieve the most significant impact towards climate neutrality.

Link to the Knowledge hub: [Pareto Analysis](#)



Knowledge Hub Box 9. DMAIC Process

DMAIC process stands for Define, Measure, Analyse, Improve, and Control (Laman, 2022). It can be used by TSLs to identify and implement quick wins in the transition towards climate neutrality by focusing on measurable improvements, data-driven analysis, and continuous monitoring and adjustment. Quick wins can be identified and implemented in any phase of the DMAIC process. In fact, most Quick Wins are identified in the Measure Phase, as part of detailed process mapping. Link in the Knowledge hub: [DMAIC process](#)



Activity 8.2: Prepare action plans

After the TSLs have co-created and co-defined their respective pilot use cases, the next logical step is to move on to the preparation of action plans. All four TRANSFORMER regions have implemented this step, which is provided in deliverable 3.3. of this project.

The purpose of the action plans is to define feasible actions for the implementation of the pilot use cases, which should raise the level of ambition and commitment and drive rapid and systemic change on the ground. They should include, among other things, concrete time-bound steps and sub-steps with corresponding milestones, measurement indicators, roles and responsibilities of stakeholders involved, financial options, as well as possible risks and mitigation measures. The definition of the action plans for the regional transition was still challenging due to the lack of benchmarks and good case examples. Therefore, the proposed steps of the action plan presented below are more of a recommendation and should be revised based on the experience gained during the implementation phase of the pilot use cases.

Objectives

- The goal of the action plans is to define time-bound concrete steps and sub-steps to achieve the goals set by the pilot use cases.
- The action plans should not only define the concrete actions for the implementation of the pilot use cases but also overall actions for the TSL development.

Tasks

- Define overarching as well as specific cross-sectoral themes that support the implementation of actions and the achievement of the TSL's objective.
- Define concrete actions and sub-actions through the pilot use cases with necessary measures, indicators, milestones and timelines.
- Identify stakeholders and define roles and responsibilities for each of the plan's actions, as well as ways and channels of coordination between different stakeholders. Assigning clear roles is vital for the clarity of accountability. The Responsibility Assignment Matrix (RACI Matrix) can be used to achieve the success of this task (Knowledge Hub box 10).
- Define potential risks, risk mitigation measures and also contingency plans in case the defined risks materialise.
- Prepare a communication plan to facilitate the dissemination of information and coordination of actions.
- Define monitoring and evaluation plans and measures.

Timing and coordination

- This activity is pivotal and should be performed right after or in parallel to Phase 2 of the roadmap “Gearing the transition capacity.”
- This activity, together with Activity 6.2, will serve as a basis for Step 9 and will support the preparation of the investment plans with respective indicators and fact sheets.

Knowledge Hub Box 10. RACI Matrix

The Responsibility Assignment Matrix (RACI Matrix) is a tool that can be used in the management of stakeholder roles within the action plans of TSL. It ensures that all parties are aware of their specific responsibilities, thereby enhancing accountability and performance. This matrix categorises roles into four types: Responsible (those who perform the tasks), Accountable (those who are ultimately responsible for the correct completion of tasks), Consulted (those whose opinions are sought), and Informed (those who are kept updated on progress) (Suhanda, and Pratami, 2021).

Link to the Knowledge Hub: [RACI Matrix for role clarity](#)



Knowledge Hub Box 11. Methodologies for Crafting Timelines and Planning Phases

Crafting effective timelines in TSLs' action plans require methodologies that consider task dependencies, planning phases, and communication strategies. Key methodologies to be adopted by TSLs include Gantt Charts (TeamGantt 2024), Critical Path Method (CPM) (Team Asana, 2024), Kanban (Kissflow 2023), and Program Evaluation and Review Technique (PERT) (Kopp, 2023). All these instruments are important in this process. Outlined approaches approaches, along with tools like Microsoft Project, Trello, Asana, and others, ensure detailed planning and clear visualisation, enhancing project management and stakeholder communication.

Link to the Knowledge hub: [Methodologies for crafting timelines and planning phases that consider dependencies](#)



Practice Example 8. Action Plans

The participant TSLs in the TRANSFORMER project, have developed action plans for their respective pilot use cases. The action plans not only set out the actions required for implementation but also defined clear timelines, milestones and the roles and responsibilities of different stakeholders. They also included an assessment of potential risks and proposed mitigation measures. Furthermore, the plans outlined possible financial and funding options.

In the course of formulating the action plans for the pilot use cases, the TSLs came to recognise the necessity of preparing an overarching action plan for Transition Super-Labs, which they deemed to be a crucial step in the process.

Although the action plans of the TSLs follow a similar structure, there are differences related to the diverse political and administrative nature of the regions, aspects related to political influence, and access to decision-making procedures and resources. Furthermore, the differences can be explained by the fact that each TSL has different topics and priorities that should be covered. Thus, Western Macedonian TSL developed short term action plans as its pilot use cases can be implemented within a very short time frame (starting even during the project's lifetime), whereas the Ruhr Area TSL designed an action plans with a longer-term implementation horizon. Consequently, some action plans are more concrete than others, providing detailed information on immediate actions.

More details on the TSLs action plans can be found in deliverable 3.3 Transition Super-Lab Action Plan



Activity 8.3: Define an assessment framework

Preparation of comprehensive assessment plans for the effective evaluation of the progress and overall impact of the transition activities is vital. As a first step, this plan should outline the key indicators, metrics and evaluation methods considering the actions defined in Activity 8.2 for each pilot use case. The plans should determine the timeline and frequency of assessment including the baseline assessment, periodic evaluations and the final assessment.

The proposed methodology for the preparation of the assessment plan follows the Evidence-Based use case Impact assessment methodology defined in deliverable 5.1. The methodology comprises the following steps: (1) identification of the anticipated impact categories, (2) determination of the KPIs, (3) definition of the baseline scenario, (4) outlining of the To-Be scenario, (5) analysis of the impact, and (6) drawing of conclusions and assessment of the overall impact.

In summary, the assessment framework should focus on the aspects that need to be evaluated, the assessment approach to be employed, the timing of the evaluation activities, and the personnel responsible for the evaluation.

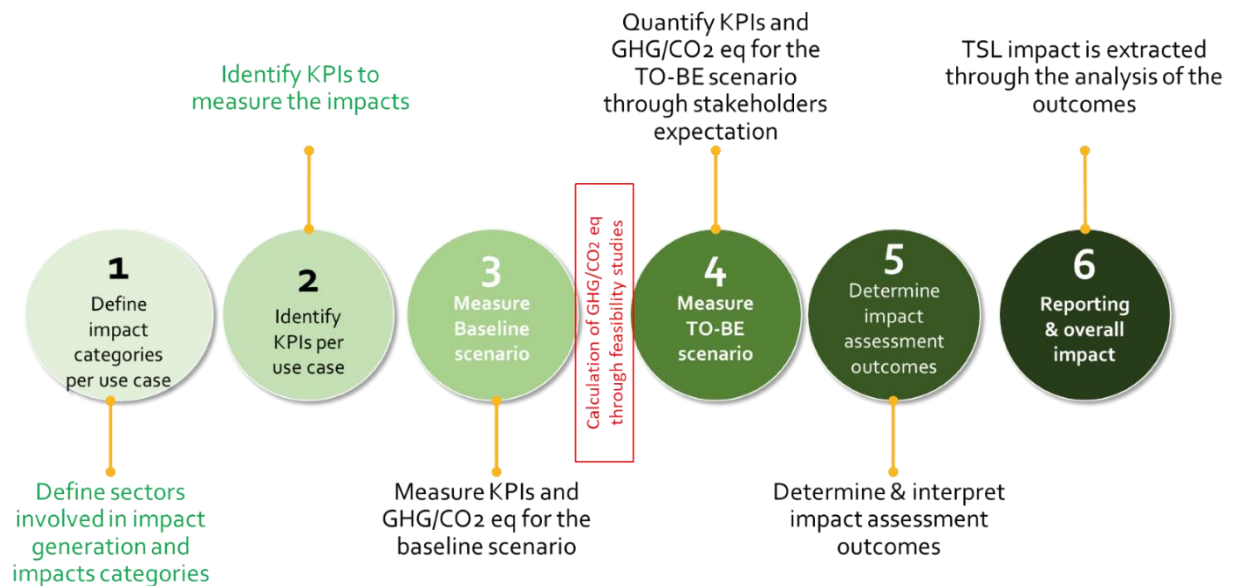


Figure 6. The six-step approach of the Evidence-Based use case Impact Assessment

The monitoring, and assessment of the results (as outlined and performed in the Activity of 10.2 of the roadmap), should be considered as a continuous process of the TSL implementation lifecycle. A detailed overview of the Evidence-Based use case Impact Assessment methodology is provided in TRANSFORMER deliverable 5.1.

Objectives

- The assessment plan will provide a structured framework for systematically measuring the outcomes and effectiveness of the transition process.

Tasks

- Define the impact categories for each of the pilot use cases, considering the individual category based on the characteristics of the pilot use case, but also considering cross-sectoral impact categories, if any.
- Compile the full list of identified categories and select the KPIs for evaluation, considering pre-implementation KPIs and expected estimates.
- Set a clear schedule and frequency for the assessment.
- Define the person(s)/organisation(s) responsible for the assessment process.

Timing and coordination

- This activity will be carried out after or in parallel with the definition of the action plans for the pilot use cases and will be used throughout the implementation process, including in Activity 10.2 for the purpose of monitoring an assessment of the transition results through the pilot use cases.

3.3.2 Step 9: Investment plans and fact sheets

Step 9 of the roadmap is the final step before the actual implementation of the pilot use cases is done and reflects to preparation of the detailed investment plans for the pilots including the financial measurements for the monitoring of the financial plan and fact sheets that would support the regions in communicating the project objectives, stakeholders, impact and value propositions. Fact sheets will be further elaborated with an investment plan.

Activity 9.1: Prepare investment plans.

Activity 9.1 focuses mainly on the preparation of investment plans (IP) with corresponding financial indicators to ensure the smooth implementation of the pilot use case actions as defined in Activity 8.2 "Prepare Action Plans", also considering the results of the financial and economic feasibility of Activity 6.2 "Assess the feasibility of the Pilot Use Cases".

Given the importance of coordinating actions at the local, regional and national levels, a relatively common structure for investment plans would facilitate the coordination and implementation of actions towards climate neutrality at the different levels of governance. For example, the structure of the IPs could follow the guidelines established in and by several cities in the EU in the framework of the NetZeroCities project, considering that some of them are located in pilot regions of the TRANSFORMER project or may/will become such cities in the future.

Considering the relatively long period that might be needed for the regional transition, proper phasing of the investment actions together with respective funding sources, whether they are public or private, with

identification of possible barriers and risks, detailed monitoring and evaluation framework for the progress tracking through defined financial and economic indicators as well as with iterative learning process with the action plan, long term financial sustainability should be achieved.

IP should be considered a living and iterative document. IPs should be able to continuously reflect on the Actions of Pilot Use Cases and possibly amend or change them during the implementation. In rare cases, such as financial infeasibilities or new policy barriers, IPs could even reflect Step 5 of the roadmap where pilot use cases are to define and suggest changes.

Objectives

- The goal of the activity is to elaborate an investment plan that would combine the results of different steps and actions of the roadmap, including the results of Step 6: – “Examine the feasibility of the pilot use cases” and Step 8 “Innovative solutions and the action plans”.
- The IPs aim to ensure long-term financial, economic and investment viability.
- The investment plans should be considered as a living and iterative document that would have the ability to reflect and possibly adjust the result of previous steps of the roadmap such as Step 5: “Co-define pilot cases” and Step 8: “Innovation solutions and Action Plans”.

Tasks

- Through engagement with relevant stakeholders, the detailed phasing of the investment plan should be defined in alignment with the concrete actions of pilot use case action plans (Activity 8.2).
- Indicators should be defined for each of the investment phasing actions for the continuous measurement of the investment progress. It is important to note that any changes should be reflected in the action plans (Activity 8.2) of the pilot use cases and, in case of need, in the results of financial and economic feasibility studies (Activity 6.2).
- It is essential to define comprehensive investment risks, taking into consideration the local characteristics of the region.

Timing and coordination

- It is recommended that investment plans be prepared during or immediately after the completion of action plans, with the involvement of various stakeholders. It is recommended that IPs be closely aligned with Activities 6.2 and 8.2 and considered as a living document.
- Through rigorous monitoring and assessment, the implementation of IPs should be regarded as an ongoing process throughout the entire implementation cycle of specific pilot use cases.

Activity 9.2: Define factsheets for each pilot use case

The preparation of the fact sheets plays an important role in communicating the key components of the project. Given the diverse characteristics of the pilot use cases, the fact sheets must be tailored to align with their specific needs. However, for ease of communication, they should follow a similar structure to ensure consistency and clarity.

The facts should provide a general overview of the TSLs (Activity 1.1.), including its vision, goals, and objectives (Activity 3.1 and Activity 3.2), as well as a description of the involved stakeholders (Activity 2.1.) and the governance model (Activity 2.3.). The facts should further provide detailed information about the pilot use case, including the goals, objectives, and targets for the pilot use case (Activity 5.2) and the impacts these would have on the pathways to achieve climate neutrality.

Additionally, fact sheets should present a summary of the actions, including the respective financial and implementation timeline (Activity 8.2), economic feasibility (Activity 6.2), and investment modes (Activity 9.1), as well as the value proposition (Activity 7.2). Furthermore, fact sheets should include contact details for interested individuals and/or organizations, enabling them to obtain further information and potentially engage in the implementation process.

Objectives

- The objective is to provide a well-structured information fact sheet for each pilot use case, which would support the overall communication of the pilot use case while also facilitating the implementation process.

Tasks

- It is recommended that one fact sheet be prepared for each pilot use case, focusing on the overall concept of the TSL and specific information about the pilot use case.
- It is important to view these fact sheets as a living document and to update them in the event of any changes to the pilot use case during the implementation phase.
- These fact sheets must be highly accessible not only to the project-related stakeholders but also to a wider audience.

Timing and coordination

- Fact sheets must be prepared immediately following the completion of Activity 9.1 and utilised throughout the implementation phase of the pilot use case.



Milestone

Upon the completion of Steps 8 and 9 and the overall completion of Phase 3, "Accelerating Transition through Innovation," an overarching action plan for the TSL has been established, along with a detailed and concrete action plan for each pilot use case, accompanied by a timeline and financials.

Additionally, innovative solutions and quick wins have been identified, and an investment plan with funding modes and phases has been developed. Communication fact sheets have been designed to combine the results from different activities of the roadmap, thereby supporting the TSL in overall communication and implementation of their respective pilot use cases.

As Phase 3 concludes, the TSL is ready to continue implementing and testing the goals, objectives, and targets of the pilot use cases.

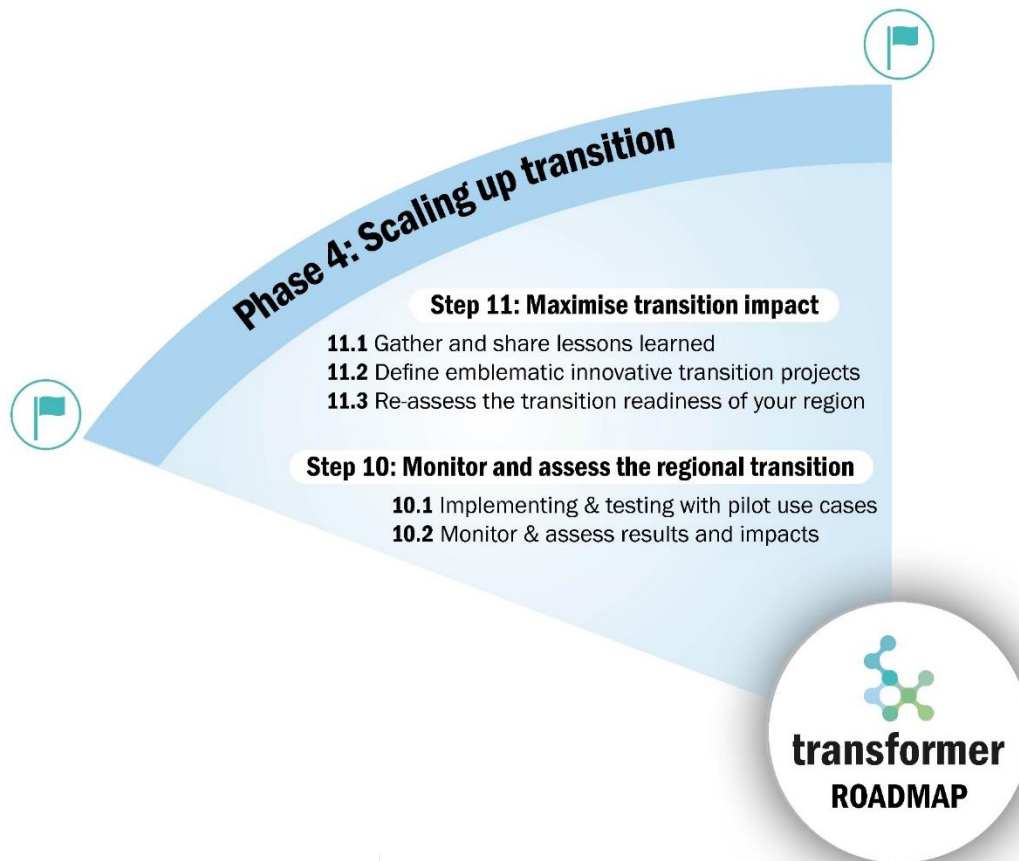
3.4 Phase 4: Scaling up the transition



Milestone: Monitoring, assessing and optimising the impact

Phase 4 of the TRANSFORMER roadmap entails the scaling up of the transition through the implementation of actions, the continuous monitoring of progress, and the ongoing learning, assessment, and definition of innovative new transition projects or opportunities that could follow the roadmap cycle. Given the complexity of this phase and the relatively short duration of the TRANSFORMER project, it was not feasible to implement all the planned steps and activities in the TSLs. However, the proposed outline is based on the extensive knowledge of the project partners and the feedback collected during the various sessions and meetings with representatives of each TSL.

Phase 4 should provide a solid foundation for scaling up the transition in the TSL and beyond.



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Figure 7. Phase 4 of the TSL development process

3.4.1 Step 10: Monitor and assess the regional transition

Activity 10.1: Implementing and experimenting with pilot use cases.

Activity 10.1 provides a sound framework for the implementation and testing of concrete actions identified during the preparation of action plans (Activity 8.1) for pilot use cases. Furthermore, the process should be aligned with investment plans (Activity 9.1), and with the overarching objective of facilitating the transition of TSLs. This should be further accompanied by a robust monitoring and evaluation process (Activity 10.2), the specifics of which are elaborated in the following section.

Given the potential complexity of the pilot use cases, the implementation process may be lengthy and complex. Therefore, it is essential to establish a clear process management structure, clearly defining the roles and responsibilities of all involved actors. Furthermore, the implementation process might entail the procurement of services and goods. It is therefore essential to ensure comprehensive coordination within the established structures and beyond throughout the implementation phase, as this will serve as a pivotal factor in determining the success of the pilot use case.

The TSL needs to maintain continuous communication with all relevant stakeholders throughout the implementation process. This should be done to provide information and updates to the stakeholders, as well as to maintain their support for the pilot use case.

Finally, the implementation process may be accompanied by several risks, which should be identified and assessed robustly. Monitoring (Activity 10.2) should be conducted regularly, and mitigation measures should be put in place where necessary. However, the TSL should be able to make quick adjustments in case of risks or other changes that are required in the pilot use case.

Objectives

- The activity represents a significant step in the project, as it entails the real-world deployment and testing of the actions of the pilot use cases to advance the regional transition.

Tasks

- Define a clear process of implementation with management structures and clear roles and responsibilities.
- Ensure clear and robust cooperation between different structures.
- Define possible risks that can arise throughout the implementation process and create a plan to mitigate them.
- Ensure flexibility in case risks arise or in case of a need to change based on assessment and monitoring results.
- Continue communication with various stakeholders.

Timing and coordination

- The phase commences upon the conclusion of the action plans and investment plans and continues until the finalisation of the implementation and testing of all actions associated with the pilot use case.

Activity 10.2: Monitor and assess results and impacts

This activity focuses on establishing a robust monitoring and reporting system to track the progress and outcomes of the transition activities continuously based on the assessment plan defined in Activity 8.3. This system should regularly collect and analyse data related to the identified indicators and metrics. The collected insights may be shared with stakeholders, decision-makers, and the public to ensure transparency and accountability. The monitoring results may serve to showcase achievements and guide decision-making by identifying areas for enhancement and necessary adjustments to the transition strategy.

Based on the Framework for Super-Labs Assessment, TSLs will collect data in order to quantify the results. A first quantification of the transition process as suggested in TRANSFORMER transition model is presented in deliverable 5.2-Framework for Super-Labs Assessment

The transition of the regions, also taking into account the potential complexity of some pilot use cases, can be a lengthy process in terms of the duration. The ongoing monitoring and assessment of the pilot use cases will facilitate the implementation of the transition process for the regions. It is possible that a reassessment of the strategic goals, objectives and targets of the pilot use cases as identified in Activity 5.2 may be required, and this should be viewed as an ongoing process through which TSL can determine whether a change is necessary or whether it would be beneficial to return to any previous steps or activities of the roadmap. Continuous data collection will also support TSLs to monitor their transition-enabling activities and to develop best practices beyond the project.

Objectives

- To keep track of the developments and results of transition operations, implement a comprehensive monitoring and reporting system.
- Gather and evaluate data on defined metrics and indicators on a regular basis.
- Highlight successes and aid in decision-making by pointing out areas that need improvement and modifying the transition plan as needed.

Tasks

- Establish a monitoring system in accordance with Activity 8.3's evaluation plan.
- Gather information at every stage to measure accomplishments like stakeholder participation and pinpointed areas of weakness.
- Document information in log files to continuously monitor the transition enabling activities.
- Formulate best practices with quantifiable measures

- As part of a continuous process, reevaluate the pilot use cases' strategic goals, objectives, and targets.

Timing and coordination

- This Activity is viewed as a continuous process involving ongoing monitoring and evaluation, where data must be regularly collected and analysed. A steady process could potentially lead to the re-evaluation of the goals, objectives and targets for the pilot use-cases.

Toolbox 17. Bright Stars

"Bright Stars" is a matrix framework utilised within the Transition Super-Lab (TSL) approach to evaluate and prioritise ideas based on their potential impact and likelihood of success in advancing regional sustainability and climate neutrality objectives. Ideas are evaluated based on their potential to contribute positively to advancing TSL's objectives, such as reducing carbon emissions, promoting renewable energy adoption, enhancing community resilience, or fostering sustainable economic development. The "Bright Stars" matrix also considers the feasibility and likelihood of successfully implementing each idea. Factors such as resource requirements, stakeholder buy-in, regulatory considerations, and technical feasibility are taken into account. By organising ideas within the matrix based on impact and feasibility, TSL stakeholders can prioritise and focus on implementing high-potential initiatives that are also realistic and achievable.



3.4.2 Step 11: Maximise transition impact

Activity 11.1: Gather and share lessons learned

This activity involves conducting systematic and continuous reviews and evaluations of the transition activities that have been implemented or are still in the process of implementation. The goal is to learn valuable lessons and insights from both successful endeavours and challenges, or even possible failures encountered during the transition process. The lessons learned should be documented in a structured manner and shared with relevant stakeholders and practitioners. By sharing these experiences, the aim is to inform future decision-making, enhance the effectiveness of upcoming initiatives, and prevent potential pitfalls.

In summary, the process of learning from experience should be approached in a systematic manner, whereby lessons are identified, documented, analysed, stored and retrieved in a logical sequence.¹⁴ The process can be an invaluable resource for the regions, enabling them to optimise their transition pathways and serve as a basis for other regions to follow.

¹⁴ Rowe, S. F. & Sikes, S. (2006). Lessons learned: taking it to the next level. Paper presented at PMI® Global Congress 2006—North America, Seattle, WA. Newtown Square, PA: Project Management Institute

The identification of the lessons learned should occur in parallel with the implementation of the pilot use cases as well as overall TSLs. Given the possible distinctive nature of the pilot use case, there are several ways to approach identification, including through continuous monitoring and evaluation processes (Activity 10.2), surveys, interviews, lesson-learning sessions, and other methods. To ensure a successful lesson-learned identification process, it is essential to consider what went well in the process, what challenges were faced, and what needs to be addressed and/or could be improved. The captured results should be well documented and analysed. This could also possibly lead to identification of the new opportunities/actions for the TSL to accelerate their pathways to climate neutrality. Finally, the lessons learned should be saved in the repository and retrieved for use in other projects.

The regions in the transition process should also aim to share their lessons including the negative experiences with other regions. This would not only help regions that are starting their transition process to leapfrog the possible negative impacts on their pathways but also support the regions in the transition to reflect on their actions.

It is also vital to maintain communication and engagement with a diverse range of stakeholders, including those who will be directly affected by the TSL or concrete pilot use cases. This approach ensures a two-way learning and sharing process. Through such engagement, stakeholders can share their achievements and challenges, while also gaining insights into potential improvements from other perspectives.

Objectives

- The overarching goal of this activity is to identify, document, analyse, store, and retrieve both successful and unsuccessful learning examples aligned with the implementation of overall TSLs and pilot use cases. This is done to maximise the transition through learning and sharing.

Tasks

- The key lessons to success and failure have been identified.
- Analyse and document the retrieved lessons in the repository, to ensure wider accessibility to this repository to share learning.
- Ensure to facilitate communication, engagement and knowledge sharing with a diverse range of stakeholders, including those in different stages of transition across various regions.

Timing and coordination

- The process of gathering and sharing lessons learned is an ongoing one that extends even beyond the completion of the implementation phase. This process is integrated with the majority of activities and steps outlined in the roadmap, serving as a methodology to maximise the transition of regions towards climate neutrality.

Activity 11.2: Define emblematic innovative transition projects

Defining emblematic innovative transition projects can inspire other regions, organisations or individuals by showcasing successful innovation and transition strategies. They can provide valuable insights and

lessons learned that would help others refine and improve their own actions and initiatives. In addition, sharing these projects can increase the visibility and recognition of local, regional, national and international stakeholders and citizens, for the efforts and achievements of the region and the TSL team involved in the transition process. It can also help engage further stakeholders and civil society locally by demonstrating the practical application and impact of the efforts towards the transition process. Finally, by sharing the details of these projects, others can replicate or scale similar initiatives to their own contexts, thereby accelerating the overall transition process.

Objectives

- The primary objective of this activity is to identify and define emblematic innovative transition projects based on the results of the previous activities. These projects are characterised by their large-scale initiatives, high transformative impact, and potential for scalability and replication. They serve as prominent examples of innovation within the transition process, inspiring stakeholders and civil society. These will serve other TSLs in the future to conduct their own Activity 8.1.
- The projects should highlight the vision, goals, and targets of the transition, providing valuable insights for refining and improving future actions.

Tasks

- Define key criteria to select the potential projects. These criteria could potentially include the scale of the project, the transformative impact, and the potential for scalability and replication.
- Identify potential projects, using activity 11.1.
- Detail the scope, objectives, and expected outcomes of the identified projects. This includes detailing how each project aligns with the overall vision, goals, and targets of the transition.
- Outline the strategic implementation of the selected projects to ensure their maximum impact on the transition process as well as their replication potentials in other contexts.

Time and coordination

- The timeline for this activity will depend on the complexity and scale of the identified projects. It is recommended to allocate sufficient time for thorough identification and definition of projects and development of selection criteria.
- Coordination among various stakeholders is crucial for the success of this activity. Regular meetings and communication should be established to ensure alignment and collaboration among all parties involved.

Activity 11.3: Re-Assess the transition readiness of your region

This activity will outline a dynamic process that starts in Phase 1 and integrates the transition readiness assessment as an iterative loop at the end of the roadmap. This approach aims to capture the essence of continuous improvement and learning within the Transition Super-Lab framework. By revisiting the Transition Readiness Self-Assessment Tool, the practitioners will be able to evaluate the progress and evolution of their region's preparedness for transformation. This iterative loop not only emphasises the adaptive nature of the TSL approach but also fosters a deeper understanding of how the suggested

process contributes to the enhancement of regional transition readiness over time. Additionally, the TSLs can evaluate if the recommendations suggested through the transition readiness self-assessment tool in Phase 1 for increasing their transition readiness level contributed towards this direction. The results of the transition readiness assessment at this stage can be combined with the results of the assessment of the efficiency and success of the transition process following the assessment framework of Activity 8.3 and the Evidence-Based Impact Assessment of the pilot use cases from Activity 10.2 to provide an overview of whether the different activities of the transition process improve the regional conditions contributing to the achievement of the goal for climate neutrality.

Through Activity 11.3, TSLs can systematically identify areas of improvement and gauge the effectiveness of their strategies, ultimately ensuring a more resilient and responsive pathway toward achieving climate neutrality and sustainable development.

Objectives

- Conduct a thorough evaluation of the transition readiness of the region by analysing various elements of readiness and compare with the relevant results of Activity 4.3 to assess the progress of the regional transition preparedness.
- Critically assess whether the different activities performed within the transition process improve the regional conditions for increasing the regional capacity of adopting innovation, and contributing to achieving of the goal for climate neutrality.

Tasks

- Gather necessary data and information about each region's governance structure, policy framework, stakeholder engagement, technological infrastructure, economic status, and social readiness.
- Utilise the Transition Readiness Self-Assessment Tool to re-calculate scores for elements and sub-elements based on responses to relevant questions. Compare the results with the ones from Phase 1.
- Combine the results of the transition readiness assessment with the results of the assessments performed in Activity 10.2 to extract an overview of the contribution of the different transition enabling activities in the achievement of the region's climate neutrality.
- Organise a stakeholder workshop to discuss the results of the Transition Readiness Self-Assessment Tool in comparison with the results provided through the tool in Phase 1 and the ones of Activity 10.2. Examine which activities enable and/or hinder the transition process of the TSL, discuss what could be done different and redesign the previous steps and activities if needed.

Timing and coordination

- In order for TSLs to benefit from the re-assessment processes, it should ideally be carried out after all Roadmap activities have been conducted and the implementation of the pilot use cases have started. This will ensure a comprehensive overview of the assessment results between the initial assessment performed in Phase 1 and the re-assessment performed in Phase 4 of the roadmap.
- It is an iterative activity that can be executed more than one time whenever the TSLs deem it necessary.



Milestone

The final milestone signals the conclusion of the roadmap process and the potential commencement of a new one. At this juncture, TSLs have gone through all the phases of the roadmap, starting with committing to creating and implementing the TSL approach and ending with implementation and experimentation of pilot use cases, subsequently conducting robust monitoring and assessment of the impacts towards climate neutrality.

Systemic reviews have potentially identified various lessons, including both successful ones and challenging ones meaning that this milestone is also the point of reflection on various activities performed in the past. With this outlook on past activities, TSLs shall identify new innovative transition projects and, through a reassessment of their regions, should begin following the roadmap process anew. The completion of Phase 4 also provides an opportunity for further dialogue with relevant stakeholders. This will facilitate the dissemination of findings and enable the gathering of insights that will prove beneficial in future endeavours.

3.5 Roadmap Checklist

This list represents the comprehensive checklist for each activity of the roadmap and can be used by the practitioners to quickly assess their progress in the transition process.

Activity 1.1.

- Relevant national and regional documents were reviewed, and the results were summarised.
- Relevant initiatives, and projects on different levels (cities, regions, state) have been identified and priorities linked.
- Opportunities and impacts identified that might result from the regional and national framework.
- Geographic scope defined.

Activity 1.2

- Relevant data sources were identified, and data was collected.
- SWOT analyses were performed, and the results assessed.
- Data analysis was conducted using qualitative and quantitative data as well as expert interviews.
- A comprehensive assessment report was prepared.

Activity 1.3

- A comprehensive evaluation of planning practices and capacities was completed.
- Identification and analysis of financial resources conducted.
- Assessment of available skills and expertise within organizations and stakeholders.
- Defined capacities for TSL development and implementation.
- Strategy developed to address skill gaps.
- Preliminary evaluation of budgetary framework and funding opportunities completed.
- The budget was defined.

Activity 1.4

- Develop a comprehensive strategy for engaging political and institutional stakeholders, highlighting the TSL's relevance to their goals.
- Prepare compelling documents and presentations that outline the TSL's objectives, benefits, and expected outcomes.
- Explore funding opportunities that align with the TSL's mission and present proposals to potential funding sources.
- Establish formal collaboration mechanisms with supportive institutions, clarifying roles and responsibilities.
- Design a communication plan to maintain regular interaction, update stakeholders on progress, and address any concerns.
- Organize events or workshops to present the TSL to political stakeholders and highlight its potential impact on the community and environment.

Activity 1.5

- Define the initial Idea or collection of ideas in regard to future development of the TSL.

Activity 2.1

- Identify diverse individuals, organizations, and entities impacted by or with a vested interest in TSL development.
- Ensure a comprehensive and inclusive range of stakeholders representing diverse perspectives, expertise, and needs.
- Understand the concerns, aspirations, and expectations of different stakeholders for informed decision-making.
- Identify potential resource contributors, including financial, technical, and human resources.
- Anticipate and identify potential conflicts or divergent interests among stakeholders.

Activity 2.2

- Analyse identified stakeholders to understand their expectations and motivations.
- Define value propositions for each stakeholder group, showcasing the TSL's contributions to climate transition.

Activity 2.3

- Identify possible governance challenges and opportunities.
- Define TSL organigram taking into consideration the TSL Governance Blueprint.
- Define governance model using “Checklist criteria for developing a successful governance model” and “Model of Governance” Developed by ENOLL.
- Define stakeholders' roles including their clear responsibilities.
- Formulate strategies to facilitate interdepartmental coalition building.
- Ensure continues monitoring and review of governance arrangements and ensure changes in needed.

Activity 2.4

- Develop a clear communication and stakeholder engagement plan.
- Establish achievable goals and outcomes for each workshop.
- Define desired outcomes for the coalition-building process.

Activity 3.1

- Establish a participatory vision development process involving stakeholders.
- Collaboratively define an ideal representation of the region's future that aligns with sustainability, encompassing a common understanding of a transformational direction.
- Garner stakeholder alignment, securing commitment to the envisioned transformation.
- Addressed potential conflicts of interest and facilitated understanding among stakeholders.

Activity 3.2

- Vision reviewed to guide the development of objectives.
- Draft objectives and goals developed and discussed with key stakeholders.
- Prepare communication strategy.

Activity 4.1.

- Impacts of potential changes in external factors explored and considered in the scenarios.
- Different alternative scenarios described, include a business-as-usual scenario.

Activity 4.2

- Political and landscape analysis performed
- One scenario has been selected and approved by relevant stakeholders.
- Multiple pathways to achieve the selected scenario have been developed collaboratively with relevant stakeholders.

Activity 4.3

- Utilized the Transition Readiness Self-Assessment Tool to calculate quantitative transition readiness scores.
- Collaboratively defined core indicators at the strategic level that align with TSL objectives and transition goals.

Activity 5.1

- Potential package of pilot use cases identified that are expected to realise cross-sectorial synergies and overcome implementation barriers.

Activity 5.2.

- Define and prioritize goals suitable to reach the vision for each of the pilot use cases.
- Targets for each pilot use case are defined and aligned with their objectives and indicators.

Activity 6.1

- A suitable set of pilot use case indicators was selected.
- Data collection for all indicators identified.

Activity 6.2.

- Shortlisted package of pilot use cases tested and appraised for their feasibility.
- Selected package of pilot use cases discussed and validated with stakeholder coalition.
- The final set of pilot use cases was selected.

Activity 7.1

- A new stakeholder map has been developed.

Activity 7.2

- Value propositions have been defined and communicated to the relevant stakeholders.
- Conflict resolution mechanisms have been developed.

Activity 7.3

- Evaluate the current governance arrangements in relation to the pilot use cases' requirements.
- Refine the governance models along decision-making mechanisms, stakeholder engagement strategies and conflict resolution methods.
- Ensure that all stakeholders are included in the governance arrangement.
- Validate the refined governance model with key stakeholders and incorporate their feedback.

Activity 8.1

- Innovative solutions defined.
- Quick wins identified.

Activity 8.2

- The overall action plan for the TSL has been prepared.
- Detailed action plans prepared for each pilot use case.
- The budget for each pilot use case defined.
- Financial resources for each pilot use case defined.
- The implementation timeline for each pilot use case defined.

Activity 8.3

- Assessment plan prepared.
- Timeline and frequency for the evaluation and assessment of the impacts defined.
- Responsibilities and responsible entities defined.

Activity 9.1

- Investment plan with respective timeline defined.

Activity 9.2

- Communication fact sheets defined.
- Communication fact sheets disseminated.

Activity 10.1

- Management structures are put in place.
- Coordination measures defined and ensured.
- Procurement needs and processes defined.
- Robust implementation risk matrix and mitigation measures defined.
- Continues communication needs, channels and modes with different stakeholders defined and ensured.

Activity 10.2

- A monitoring system in compliance with the evaluation strategy is created.
- Data to assess successes and areas of improvement compiled.
- Measurable benchmarks and best practices established.
- In case of need the strategic goals, objectives, and targets of the pilot use cases reevaluated.

Activity 11.1

- A repository for the lessons learned has been created.
- Success and failure lessons have been identified, documented and saved in the repository.
- Access to the repository to a wider audience ensured.
- Key stakeholders and citizens have been involved in discussing the lessons learned, and feedback has been collected.
- Potential new opportunities and activities have been outlined.
- The project has engaged with other regions in different phases of the transition.
- The continuity of learning and the sharing of knowledge are ensured.

Activity 11.1

- The criteria for identification of the emblematic innovative transition projects are defined.
- Innovative projects are identified with clear scope, objectives and targets.
- Strategic implementation approach for the innovative projects is set.

Activity 11.2

- The transition readiness of the region is re-assessed.

Activity 11.3

- Ensure that the data is collected based on the pre-defined assessment framework.
- Perform assessment using Transition Readiness Self-Assessment methodology and compare derived answers to the results of assessment performed in Phase 1 of the roadmap.
- Assess the complete results together with respective stakeholders and define necessary step to overcome potential hinders of transition process.

4 Final Remarks

In light of the pressing need for cities, regions and states to achieve climate neutrality in the near future, it is evident that innovative, systemic solutions are required to address the complex interrelationship between social, economic and environmental factors. The roadmap offers a comprehensive framework for regions to follow in order to accelerate their pathways to climate neutrality.

This deliverable is based on a comprehensive iterative learning process that integrates the insights and lessons learned from the various activities performed during the TRANSFORMER project. Lessons gathered show that a clear governance structure, early conceptualisation of the TSL vision, creation of a common vision and scenarios with goals and objectives, wider stakeholder engagement with the application of innovative tools, identification of innovative solutions and a clear definition of pilot use cases with their respective action and investment plans, as well as the need for continuous monitoring, evaluation and assessment of the regional transition needs, and a continued effort to maximise the impact, are of paramount importance.

It is vital to recognise that this blueprint should be viewed as an ongoing process, and that future TSLs should not be implemented in a linear, straightforward, step-by-step, or activity-by-activity manner. Instead, based on the specific characteristics of TSLs, it would be more appropriate to view the TSL roadmap as a cycle, with the option to commence at any phase or step that is more sustainable to the conditions of the region and even return to any previous step once progress has been made.

TRANSFORMER project showcased that the regions might possess the capacity and can play a critical role of driving the transition process. Therefore, regions should continue with the experimentation of new ideas and approaches, while also engaging in a process of continuous learning supporting them in optimising their pathways to climate neutrality.

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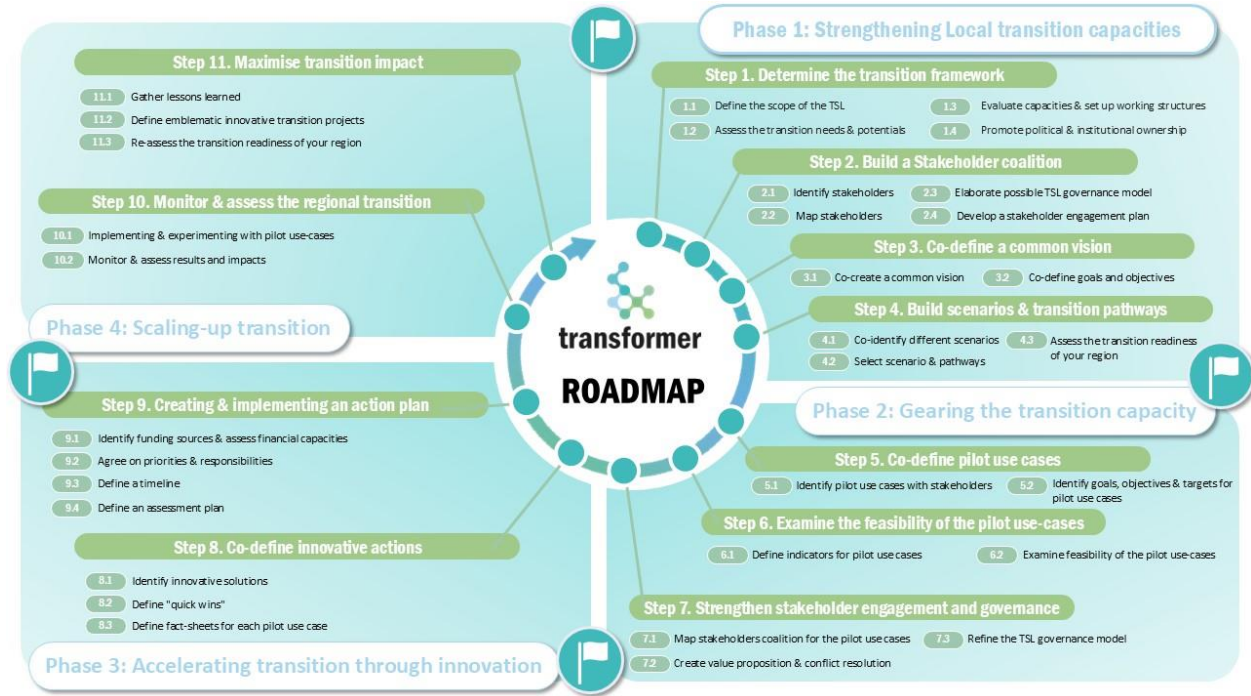
6 Annexes

6.1 Annex 1. Summary of changes to the roadmap from the original version

Phase	Step	Activity	Description of the change
Phase 1: Assess and build the transition capacities			Initial name of this phase was: “Phase 1: Strengthening local transitions capacities”. The name was changed due to content and overall goal of each step and activities of this phase.
	Step 1. Determine the transition framework	Activity 1.3. Evaluate capacities and set up working structures	The naming of this activity has changed. Activity 1.3. is now named as “Evaluate and define capacities and set up working structures.” The need for change was identified during the User Forum Activities of the Transformer project.
		Activity 1.5 Conceptualize the vision	This activity was added in the final version of the roadmap and is based lessons learned from TSLs.
	Step 2. Build a stakeholder coalition	Activity 2.1 Identify Stakeholders	The naming of this activity has changed to – “Activity 2.1 identify stakeholders with responsibilities”. Change is based on recommendations from User Forum participants of the TRANSFORMER project.
Phase 3 Accelerating transition through	Step 8		The steps 8 (Codefine innovative actions) and Step 9 (creating and implementing an action plan) have been refined based on various engagements with TSLs. In the final version of the roadmap, Step 8 is focused on „Innovative solutions and action plans“ while Step 9 is focused on preparation of the investment plans and the fact sheets. The Actions were respectively adjusted.
Phase 4	Step 11	Activity 11.1 Gather lessons learned	The activity has been renamed and the final version of the roadmap reflects not only the gathering of lessons but also their sharing. Consequently, the naming has been changed to Activity 11.1: Gather and share lessons learned.

A minor alteration has been made to the design of the roadmap. Given that the roadmap is regarded as an ongoing process, the arrow symbol has been removed. This makes it evident that the process should not be followed in a linear way, step by step or activity by activity. Instead, it should be viewed as a cyclical process, with the option to revisit any of the steps or even skip them if necessary.

Initial version of the roadmap is provided below.



6.2 Annex 2. Summary of Tools and Knowledge Hub items

Phase	Steps	Activities	Tools	Knowledge Hub items
Phase 1: Assess and build the transition capacities	Step 1: Determine the transition framework	1.1: Define the scope of the TSL	- Transitioncamp - SWOT Workshop - Walt Disney Method - Ambition Settings	
		1.2: Assess the transition needs and potentials	- SWOT workshop	-Quantitative Regional Assessment Framework for Transition Super-Labs (QRAFT) -Methodology for assessing the efficiency and success of the transition process towards climate neutrality -PESTEL analysis
		1.3: Evaluate capacities and set up working structures	- Governance Canvas by ENOLL	
		1.4: Promote political and institutional ownership	- Transitioncamp	
		1.5: Conceptualise the vision	- Transitioncamp	
	Step 2: Build a stakeholder coalition	2.1: Identify stakeholders with responsibilities	- Transitioncamp - Open matchmaker - SWOT Workshop	
		2.2: Map stakeholders	- Transitioncamp - Open matchmaker - POWER/INTEREST MATRIX - SWOT Workshop	
		2.3: Elaborate possible TSL governance model	-Governance Canvas by ENOLL - SWOT Workshop	
		2.4: Develop a stakeholder engagement plan	- SWOT workshop	
	Step 3: Co-define a common vision	3.1: Co-create a common vision	- Transitioncamp - Walt Disney Method - 5 Bold Steps - Citizens' Assemblies - Co-creation - Ambition Settings - World Cafè	

Phase	Steps	Activities	Tools	Knowledge Hub items	
		3.2: Co-define goals and objectives	<ul style="list-style-type: none"> - Transitioncamp - 5 Bold Steps (adapted version) - Deliberative forums - Walt Disney Method - World Cafè 		
	Step 4: Build scenarios and transition pathways	4.1: Co-identify different scenarios	<ul style="list-style-type: none"> - Transitioncamp - Ambition setting - Deliberative Forums - Walt Disney Method 		
		4.2: Select scenario and pathways	<ul style="list-style-type: none"> - Transitioncamp - A/B Testing -Walt Disney Method 	SWOT-proxy analysis for purposefulness, feasibility, sustainability and risk aspects	
		4.3: Assess the transition readiness of your region		Transition Readiness Assessment	
Phase 2: Gearing the transition capacity	Step 5: Co-define pilot use cases	5.1: Identify pilot use cases with stakeholders	<ul style="list-style-type: none"> - Transitioncamp - Collaborative Pilot Schedule - Deliberative forums - Brainwriting - Delphi Exercise - A/B Testing - Walt Disney Method 		
		5.2: Identify goals, objectives and targets for pilot use cases		-Evidence Based Impact Assessment	
	Step 6: Examine the feasibility of the pilot use cases	6.1: Define indicators for pilot use cases	<ul style="list-style-type: none"> - Transitioncamp 	-Evidence Based Impact Assessment	
		6.2: Examine the feasibility of pilot use cases	<ul style="list-style-type: none"> - Assumption Mapper 		
	Step 7: Strengthen stakeholder engagement and governance	7.1: Map stakeholders coalition for the pilot use cases	<ul style="list-style-type: none"> - Open matchmaker - Transitioncamp - Power/Interest Matrix - SWOT Workshop - World Cafè 		
		7.2: Create value proposition and conflict resolution	<ul style="list-style-type: none"> - SWOT workshop 	-Conflict resolution mechanisms	
		7.3: Refine the TSL governance model			
	Phase 3: Accelerating transition	Step 8: Innovative solutions and action plans	8.1: Identify innovative solutions and define quick wins	<ul style="list-style-type: none"> - Open matchmaker - Bespoke Social Cafè - B2B Rotation - Brainwriting 	<ul style="list-style-type: none"> -Pareto Analysis -DMAIC analysis
			8.2: Prepare action plans		- RACI Matrix

Phase	Steps	Activities	Tools	Knowledge Hub items
				- Methodologies for crafting timelines and planning phases
		8.3 Define an assessment framework		
	Step 9: Investment plans and factsheets	9.1: Prepare Investment Plans	- Open matchmaker - Bespoke Social Café - B2B Rotation	
		9.3: Define a factsheet for each pilot use cases		
Phase 4: Scaling-up transition	Step 10: Monitor and assess the regional transition	10.1: Implementing and testing with pilot use cases	- Assumption Mapper	
		10.2: Monitor and assess results and impacts	- Transitioncamp - Bright Stars	-Methodology for assessing the efficiency and success of the transition process towards climate neutrality -Evidence Based Impact Assessment
	Step 11: Maximise transition impact	11.1: Gather lessons learned	- Bespoke Social Café	
		11.2: Define emblematic innovative transition projects	- Open matchmaker - B2B Rotation	
		11.3: Re-Assess the transition readiness of your region	- Open matchmaker - B2B Rotation - Transitioncamp	Transition Readiness Assessment