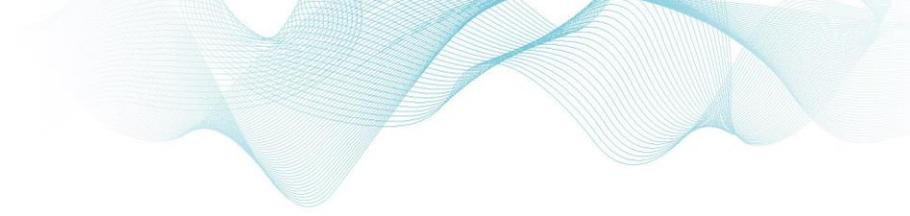


RUTA DE
APRENDIZAJE
A LA POLÍTICA DE
INNOVACIÓN
TRANSFORMATIVA
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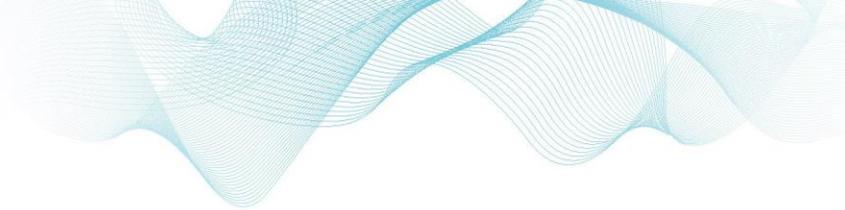


**'HUB METHODOLOGIES AND TOOLS FOR EXPERIMENTATION
(ENGLISH VERSION)'**

EDITED EXTRACT FROM:

**THE LEARNING PATH OF TRANSFORMATIVE INNOVATION POLICY
(TIP) OF THE LATIN AMERICAN AND CARIBBEAN HUB OF
TRANSFORMATIVE INNOVATION POLICY (HUBLAYCTIP)**

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This extract explains the modes of experimentation and, associated with these, some of the methodologies in Transformative Innovation that support such experimentation processes. In addition, this tool goes deeper into three experimentation methodologies:

- Strategic Niche Management (SNM);
- Transformation Labs (or T-Labs); and
- Future Scenario Analysis through Backcasting.

Experimentation is a method that aims to open up spaces to support new, more sustainable practices and facilitate the design, evaluation and enactment of different socio-technical alternatives. This can translate into experimentation with narratives, consumption practices, business models and policies along with new technologies. In this sense, experiments can be existing projects or programs in universities or other institutions that have transformative potential

ACTIVITIES TO SUPPORT THE EXPERIMENT

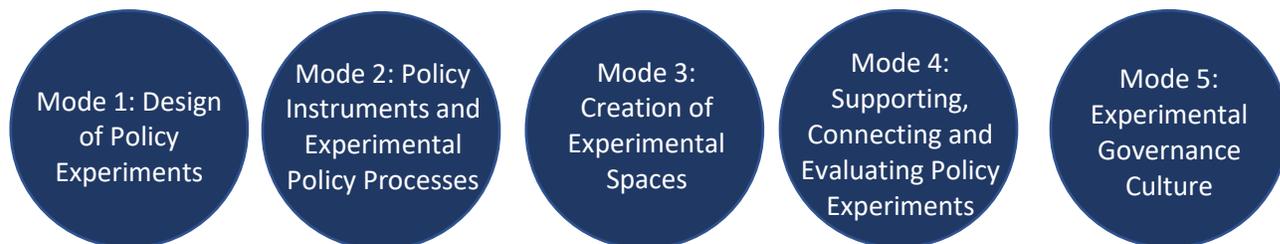
In order to achieve the transformative outcomes described in the previous chapter, it is necessary to provide spaces for testing all the instruments and strategies defined in the ToC, which open the way to transformative processes. These spaces for action, known as experimentation, not only allow the execution of previously established activities, but also provide opportunities to test the connection between the basic elements of the ToC (activities, products and outcomes) and the Transformative Outcomes. In order to corroborate this connection and set up such experimentation spaces, it is essential to establish a specific experimentation plan. This planning includes breaking down each ToC activity into micro-activities, establishing a clear purpose for each of them and choosing the methodological tools for their execution.

Methodologies in Transformative Innovation

There are a number of methodological tools used in research, innovation and development processes, but not all of them focus on transformative innovation experiments. The methodologies to be selected should allow to achieve 3 main objectives: (1) to reflect on the socio-technical system and actors, those involved and those marginalized, (2) to critically question previously established assumptions and beliefs about the theories of change developed, and (3) to move forward in a concrete way with transformative activities.

To facilitate the process of choosing methodological tools, TIPC proposes 5 approaches of "Experimental Policy Interventions" (IPE), (Torrens, J. and Schot, J, 2017), in which processes of experimentation in Transformative Innovation can happen:

Figure 7. 5 Modes of Experimental Policy Interventions



Next, we describe modes 2, 3, 4, and 5 with which a first classification of methodologies in Transformative Innovation is made, describing the role and application of methodologies according to the mode.¹

Table 4. Categorization of Methodologies in Transformative Innovation

EXPERIMENTATION MODE ACCORDING TO TIPC	ROLE	EXAMPLES METHODOLOGY	APPLICATION EXAMPLES (ACTIVITIES AND/OR PRODUCTS)
MODE 2: Policy Instruments and Experimental Policy Processes	Create instruments and/or policy initiatives at the local level to legitimize niches and support their scale and growth	*Strategic Niche Management – SNM-). *Multicriteria Map MCM	<ul style="list-style-type: none"> • Connections with (all) actors that are part of the system. • Strengthening of already established alliances. • Identification of intermediaries to strengthen the niche. • Destabilization of the dominant regime. • Construction of alternative economies.
MODE 3: Creation of Experimental Spaces	To build new and different paths in a context in which political, market and environmental aspects are	* Backcasting * Scenario planning. * Forecasting.	<ul style="list-style-type: none"> • Creation of collective spaces for deep and constant reflection on the future and the implication of the decisions taken.

¹ Mode 1 is not addressed in this guide since they correspond to instruments and methodologies to be used by policy makers and are still under study by the TIPC.

EXPERIMENTATION MODE ACCORDING TO TIPC	ROLE	EXAMPLES METHODOLOGY	APPLICATION EXAMPLES (ACTIVITIES AND/OR PRODUCTS)
	flexible in order to achieve an ideal future.		<ul style="list-style-type: none"> • Generation of alliances between different actors in type and discipline. • Co-creation of short, medium and long term solutions.
MODE 4: Support, Connection and Evaluation of Policy Experiments	Align multi-actors within new systems by creating collaboration channels between them.	*Multiple Stakeholders Partnerships	<ul style="list-style-type: none"> • Identification of multi-stakeholder identity to create roles towards transformation. • Involvement of (all) stakeholders from the beginning of the experiment by enabling participatory governance through bilateral meetings. • Management of collective co-creation spaces through creative learning workshops. • Stakeholder learning and reflection through background research and capacity building workshops. • Stakeholder relationship management, facilitator-led activities.
MODE 5: Experimental Governance Culture	Democratize learning, reflection and prototyping processes in a limited space of time, in which actors from multiple disciplines usually excluded from the decisions of the dominant system or regime participate.	<p>*Transformation laboratories/ T-Labs.</p> <p>* Systematization of experiences.</p> <p>* Participatory impact path analysis PIPA</p>	<ul style="list-style-type: none"> • Governance activities that include multiple actors of the regime, but mainly those usually excluded. • Development of 1st and 2nd order learning and co-creation workshops. • Strengthening of agency activities within new or already formed niches. • Co-creation of change solutions and reflection on their possible outcomes.

DELIVERING AN EXPERIMENTATION PLAN

Leaders and teams must establish the activities to be carried out and from them, highlight the first micro-activity or task to be executed that will make it possible to achieve certain products and scopes defined in the ToC. At the same time, and in order to maintain the transformational approach, they should define in detail the purpose of the activities.

With the purpose defined, possible methodological tools can be identified (see below for examples), which in turn can be adapted according to the activity to be developed. These methodologies should be selected according to the purpose to be fulfilled, which will help to establish a specific plan of experimentation concrete and directed to the transformation. This plan also includes defining the facilitators of each micro-activity, the actors who will participate, the date of development and the means of execution.

Page 14 of this extract poses some basic questions that, when answered, facilitate the planning of the experimentation process. In the same annex, it is possible to find a guide that supports the elaboration of a specific experimentation plan.

Methodologies for Experimentation in Transformative Innovation

Strategic Niche Management – SNM-

Strategic Niche Management is a methodological approach that supports the creation of sustainable niches (Schot and Geels, 2008). Within the transitions literature, sustainable niches are considered "protected spaces" where experimentation processes are encouraged to promote transformations in socio-technical systems. Within these spaces it is possible to produce disruptive changes in the following areas:



Thus, niches are contexts where it is possible to experiment with new forms and strategies for sustainable development. In many cases, for public policy, but also for researchers, the most significant challenge is to move from small-scale experimentation to more significant

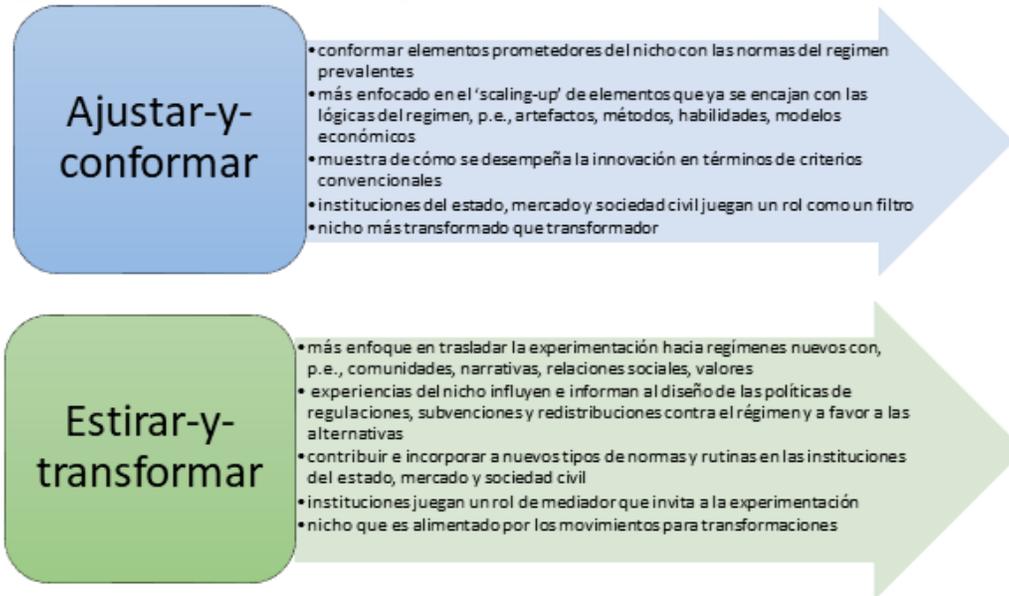
changes that can promote transformations at the systemic level. In this sense, the literature associated with the strategic management of niches proposes considering three strategies: empowering niches, shielding niches and nurturing niches, through which transformations are facilitated.

Empowering Niches

The empowerment of niches involves two types of strategies, and since they differ considerably, they require different types of support from public policy (see illustration 1). The "Adjust and Conform" strategy. This strategy focuses on transforming some aspects of the regime. Such is the case of wind energy which, being controlled by large companies, does not necessarily seek to alter the fundamental rules and governance of the energy system. On the contrary, it seeks to adapt to the existing rules of the market by promoting a gradual change. Therefore, public policy can empower these niches, supporting technology transfer where it does not yet exist, and increasing demand through favourable purchasing.

On the other hand, "stretch and transform" seeks to promote deep and disruptive changes in the current system. Niches following this strategy could generate changes in habits, user expectations and the rules of the system. In the case of energy, this could include the decentralization of the energy system and the democratization of this system so that it responds to the needs of communities. Because more disruptive changes are generated, public policy support is indispensable. This support can be provided either through the creation of experimentation spaces where democratic processes are fostered to strengthen relationships between actors, and/or by stimulating the adoption of new norms to induce profound changes in the dominant regime. This implies the creation of new institutions so that the practices, technologies and expectations associated with the niche can be adopted by larger groups of actors.

Figure 1. Empowerment Strategies Fit-and-conform and Stretch-and-transform



In order to identify the possible empowerment scenarios of a niche, the Strategic Niche Management methodology proposes to analyze the two strategies, (1) fit-and-conform and (2) stretch-and-transform, from the different socio-technical dimensions where niches seek to act and generate transformations (also known as "selection environment") (Smith and Raven, 2012), as illustrated in the following table.

Strategies for empowering transformative niches

Dimensión sociotécnica	Ajustar y conformar	Estirar y transformar
Principios que guían el experimento		
Tecnologías claves		
Estructura industrial		
Relaciones con el usuario y los mercados		
Políticas y normas		
Formas de conocimiento		
Cultura		

Niche shielding

The concept of armouring in transformative innovation implies creating an enabling environment to resist the dominant norms of the regime's systems while recognizing and promoting alternatives. These environments can be generated when social sectors organize themselves to support a change in the system (as in the case of social movements promoting changes in consumption). In other cases, public policy must be proactive and promote everything from experimental spaces (fablabs) to creating information campaigns, encouraging state purchases, establishing tax reductions and encouraging investment. The objective is to create a more favorable and friendly environment for the development of new alternatives.

Nurturing Niches

The strategy of nurturing niches seeks to go a step further to create greater resilience, consolidating alternative visions, aligning agendas for change among system actors, helping to set expectations and creating technological alternatives. For this it is necessary to establish broad and deep networks, broad in the sense of being able to incorporate a multitude of actors from different parts of the system, deep so that there are high levels of reliability, common commitment and alignment. In this way a virtuous circle is built between networks, learning and new expectations.

The tools needed to armor and nurture the niche can be identified through the following questions:

Shielding:

- How to create favourable environments that allow sustainable experimentation in our system?
- What are the actions that could facilitate the context for experimentation with alternatives to the regime?

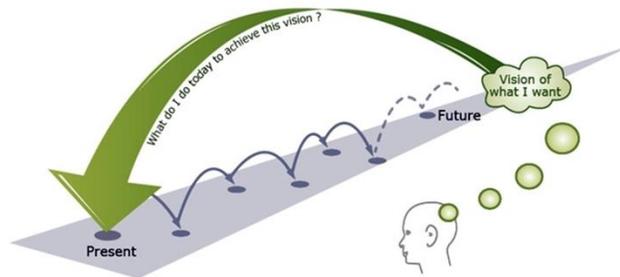
Nourish:

- what are the key lessons, visions and networks for sustainable niches in your system?
- what would be the actions to cultivate more knowledge/learning, strong networks, and more compelling visions?

Developing these questions, after having identified the empowerment strategy to be followed, is considered the starting point for the creation of public policy instruments that will protect the sustainable niche in its growth, strengthening and scaling up.

Backcasting

It is a tool in which, through a co-creative process of deep reflection, a desired future is defined and analysed in retrospect how such a future could be achieved, what actions should be implemented to bring it about and what policy measures and strategies should be included in an agenda for action towards that desired future. Following this approach, backcasting seeks to answer the question: How can the desired future be achieved or what alternatives exist to achieve an imaginable future scenario?



1. Comience con una visión en mente

2. 'Desplácese' hacia atrás desde la visión hasta el presente

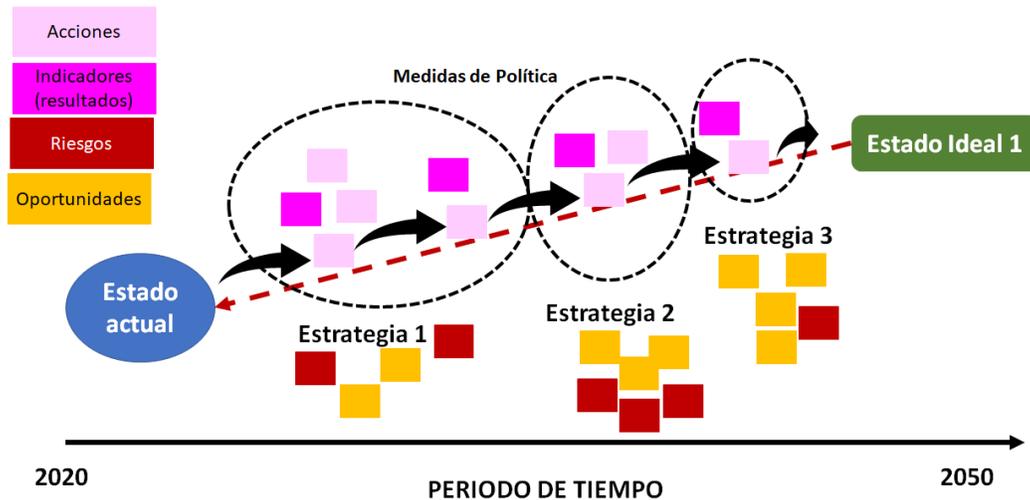
3. Avance paso a paso hacia la visión

The backcasting or retrospective activity seeks that the group of participants, which includes academics from different areas of knowledge, civil society and users, collectively identify one or more ideal futures, diverse narratives and novel solutions to generate profound changes in socio-technical systems. For this reason this methodology is used when:

- Desire to address complex problems that affect various sectors and levels of society.
- Incremental change is not enough and more change is needed.
- Externalities play a key role and are not satisfactorily addressed by the market.
- Dominant trends are part of the problem.
- It is essential to develop visions for the future.
- Long-term sustainable solutions are to be explored.

Due to the characteristics of backcasting, this methodology has been used for transitions with the purpose of indicating the relative feasibility and implications of different futures of socio-technical systems.

The methodology establishes a series of steps to be followed:



1) Time period

It is established and determined depending on how far into the future you want to start. The time period should be manageable, so it is recommended to define as a start between 25 and 30 years in the future from the present time.

2) Current Status or Strategic Orientation of the Problem

It answers the main question to which current aspects of the socio-technical system elements are central to describe the current scenario in terms of environmental and social sustainability.

3) Ideal Status

This step focuses on building narratives - collectively - based on current information and knowledge that describe different alternative futures and that have to be plausible and internally consistent.

4) Actions and Indicators

This point is about identifying actions and indicators that could guide the previously defined future scenarios. A crucial question in this case is: What do I have to do today to achieve the proposed ideal state?

Subsequently, actions that share aspects should be grouped together to then determine future strategies for their implementation.

5) Risks and opportunities

It studies the most compelling and interesting opportunities and the most threatening risks for each group of actions and indicators.

6) Action Agenda and Follow-up

Development of list of strategies, road maps and action agenda, supported by stories, mind maps, reports, etc. required to start planning and advance in the fulfillment of the experiment/project strategies.

It focuses on developing main perspectives: 1) how we can start working immediately and 2) how we will measure these activities.

7) Agenda implementation and monitoring

Implementation and monitoring of actions and strategies defined in the Action and Follow-up Agenda.

Transformation Labs (T-Labs)

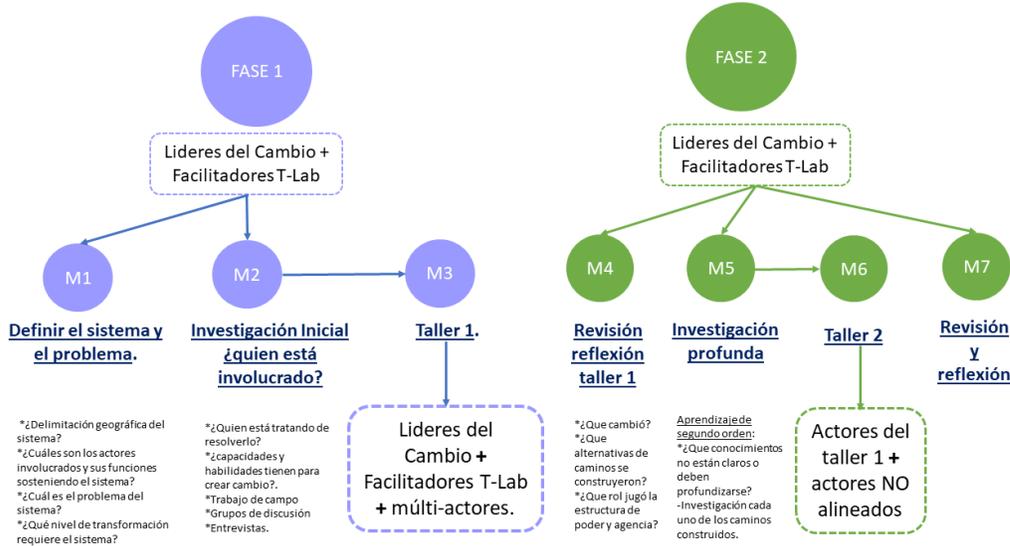
Considering that individual action is the first step towards collective agency, the Transformation Laboratories, known as T-Labs, allow, through the application of participatory tools, to represent personal perceptions of a system. Reflection on these perceptions makes it possible to identify the role of each of the individuals/actors who are part of the socio-ecological-technical system to which the problem is subscribed. The in-depth analysis of these roles allows us to recognize similar and contrary attitudes and actions of the multiple actors. Consequently, participation activities make evident opportunities to establish relationships between actors and, in turn, spaces for consensus, iteration and alignment, with the clear purpose of encouraging collective action.

Experts in transformation laboratories recommend using this methodology within a specific framework of needs, these are when:

- A transformation of socio-ecological systems is sought.
- Complex problems related to transformation are to be solved.
- There is a significant number of people interested in making the change.
- There is confusion and disagreement about what is happening.
- It is an urgent collective issue.

The tools used in the development of transformation labs or T-Labs focus on: Agency and its mobilization (Charli-Joseph et al. 2018). In this order of ideas, transformation laboratories are developed in 2 phases (see graph 1. Phases Development T-Labs).

Graph 1. Phases Development T-Labs



(Para más ver T-LABS: A PRACTICAL GUIDE).

Thus, we find that in a Transformation Laboratory, products can be developed such as:

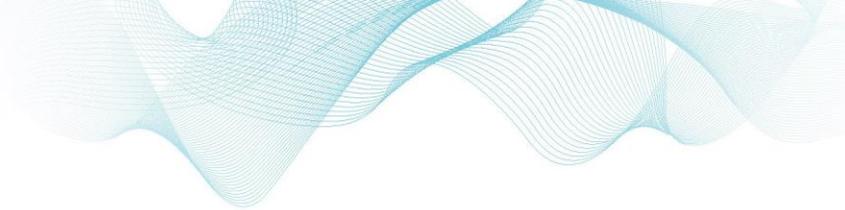
- 1st and 2nd order learning.
- Semi-structured interviews
- Training workshops.
- Co-creation workshops.
- Reflection workshops.
- Documents with results of activities.
- Model solutions and/or transforming prototypes.

To facilitate the achievement of the objective of empowering the various actors within a system, the Transformation Labs apply and develop different practical tools, as described in Table 2. These tools are aimed at reflecting on the social, environmental and political visions of a system and consequently creating solutions for the transformation of this socio-ecological-technical system.

Table 2. T-Labs Practical Tools.

T-LABS PRACTICAL TOOLS

AGENCY NETWORK ANALYSIS	PARTICIPATORY RURAL APPRAISAL
CONCURRENT EVIDENCE	PARTICIPATORY SCENARIOS
DELIBERATIVE MAPPING	FOTOVOZ
H EVALUATION	Q METHOD
INTERVENTION STORIES / FUTURES	RIOS DE LA VIDA
INNOVATION STORIES	SCIENTOMETRIC MAPPING
LIFE STORIES	SENSITIVITY ANALYSIS
MULTI-CRITERIA MAPPING	SOCIO-TECHNICAL IMAGINARIES
OPEN SPACE TECHNOLOGY	SYSTEM HISTORIES
PARTICIPATORY IMPACT PATHWAY ANALYSIS (PIPA)	TECHNOGRAPHY



Key questions and Specific Experimentation Plan

The following questions are intended to help teams reflect on the experimentation process:

1. What activity will initiate the development of the experiment? What will it foster and how does it relate to the transformative outcomes?

2. What methodology(ies) will be used in the experiment? How are they articulated with the ToC?

3. What practical tools does this methodology(ies) propose and how can they be adapted to achieve transformative outcomes?

The following template can be a useful tool for planning and managing the activities that make up the experiment, keeping in mind its transformative purpose:

Institution name: _____

N°	Activity ToC	Methodology and/or Tool	Micro-Activity	Purpose	Outcome ToC	Facilitators	Involved actors