TIPC POLICY BRIEF

KEY PRINCIPLES FOR A FORMATIVE EVALUATION OF TRANSFORMATIVE INNOVATION POLICY

EXECUTIVE SUMMARY

Transformative Innovation Policy (TIP) is an emerging form for understanding and practicing innovation policy. It aims to mobilise innovation to tackle grand societal and environmental challenges as encapsulated in the Sustainable Development Goals (SDGs). TIP is an experimental approach that seeks to be inclusive, promote deep learning and, ultimately, achieve systemic change. These characteristics and the experimental nature of TIPs make them different from other approaches to innovation policy and require a different approach to evaluation.

This brief proposes a formative approach to the evaluation of TIP experiments performed in protected technology niches, or policy experiments aimed at destabilising dominant, unsustainable socio-technical systems.

Built upon a literature review and interactions with partners of the Transformative Innovation Policy Consortium (TIPC) it suggests six key principles for TIP evaluation: formative approach, integration with policy design and implementation, nested approach, participation, methodological diversity and the use of Theories of Change (ToCs). A formative approach to evaluation should be able to deliver a real-time assessment of policy and local experiments, addressing directionality and societal goals, and enhancing systemic impact, reflexivity and inclusiveness. This will involve a transformation of the role and the practice of funding agencies, as well as their relationships with partners and other stakeholders for evaluation and so, consideration is given to the policy implications of such an approach.

AUTHORS
Alejandra Boni (Ingenio, CSIC-UPV), Sandro Giachi (SPRU, University of Sussex), Jordi Molas-Gallart (Ingenio, CSIC-UPV). Contact aboni@ingenio.upv.es

CONTACT
Transformative Innovation Policy Consortium (TIPC), SPRU – Science Policy Research Unit, University of Sussex, Brighton, BN1 9SL, United Kingdom

EMAIL
TIPC@sussex.ac.uk

WEBSITE
www.tipconsortium.net

TWITTER
@TIPConsortium

UNIVERSITY OF SUSSEX | BUSINESS SCHOOL

TRANSFORMATIVE INNOVATION POLICY CONSORTIUM

ingenio +20 CSIC-UPV

KEY MESSAGES ON FORMATIVE EVALUATION FOR TIP

Evaluation can be understood as a formative and strategic dimension of a project, programme or policy mix. Evaluation should be informed by TIP principles, and deploy a participatory and inclusive process supporting learning and capacity development among the participants.

SIX KEY PRINCIPLES

1. **Formative approach:** evaluation aims at improving policy definition and implementation through the involvement of all relevant policy stakeholders. It requires the development of specific capabilities, and supports second-order learning and reflexivity.

2. **Integrate evaluation within policy design and implementation processes:** evaluation is part of the policy process and, therefore, should be coherent with the stated innovation policy goals.

3. **Nested approach:** evaluation needs to address the different levels of policy intervention, from specific projects at niche and local level, through programmes incorporating sets of projects, to complex policy interventions involving different programmes. Evaluation should be conducted at all levels in a coherent and consistent way.

4. **Participation** and open debate should be facilitated. Conflicts of power, interest and perceptions should not be avoided. The groups and communities with a role in the evaluation process will be varied and have different access to resources and, even, different interests. At the same time, evaluation should be open and reflexive enough to capture emerging trends and problems, and incorporate new goals and actors.

5. **Methodological diversity:** rather than using formalised standard protocols, through the evaluation process different methods and techniques should be selected, according to the context. Qualitative and participatory techniques can help increase inclusiveness of the evaluation process and allow a more horizontal involvement of the actors.

6. Evaluation needs to define and adopt a generic **Theory of Change (ToC)**. This generic theory should be informed by transformative innovation theory to help distinguish the key dimensions of a policy experiment. Every evaluation of specific TIP experiments should be based on specific theories of change consistent with the generic one. Each specific ToC should be flexible and can be revisited as a result of the formative evaluation process.

THE CHALLENGE OF EVALUATING TIP

When it comes to TIP evaluation, we face a challenge: evaluation of TIP is something new, we have to custom-build it. Current literature and practices on evaluation offer some help and insights, but the specific characteristics of TIP pose two main evaluation challenges.

First, the goal of TIP experiments is transforming current practices and contributing to a transition towards a sustainable and more equitable regime. We need to evaluate experiments performed in protected niches or local spaces, like alternative systems for transportation (e.g. mobility as a service), energy (e.g. grid decentralisation), or agriculture (e.g. food miles).

Yet, these experiments ultimately aim at triggering a change in the socio-technical system. How can we assess the longer term systemic consequences of limited TIP experiments?

Second, TIP experiments pursue changes in governance emphasising inclusive, participatory processes. These changes have to be extended to policy evaluation: the roles of the actors involved in evaluation as well as the organisational routines within which evaluation practices are inserted will need to be adapted so that evaluation practices are consistent with the inclusive, participation philosophy that informs TIP.

BUILDING AN EVALUATION STRATEGY

THE TIP EVALUATION STRATEGY WE PROPOSE IS BASED ON:

1. A review of evaluation literature. Evaluation work in areas close to TIP has generated different evaluation communities and practices that have not been connected so far. Examples are the evaluation of sustainable innovation, responsible research to leverage sustainable transformations, innovation policy mixes for system transformation, EU climate policy, interdisciplinarity of socio-ecological research, or sustainability transition experiments. We assessed the suitability of the approaches and techniques developed in these fields.

2. Discussion with TIPC partners in workshops involving officers from science, technology and innovation agencies in six different countries (South Africa, Colombia, Mexico, Norway, Finland and Sweden), to review and validate the proposal that was initially built on the literature review.

KEY PRINCIPLES FOR TIP EVALUATION

WE PROPOSE THE FOLLOWING UNDERSTANDING OF HOW EVALUATION CAN BE FRAMED FOR TIP:

Evaluation can be understood as a formative and strategic dimension of a project, programme or policy mix. Evaluation should be informed by TIP principles, and deploy a participatory and inclusive process through which learning and capacities are developed among the participants.

CONSISTENT WITH THE TIP APPROACH, WE IDENTIFIED SIX PRINCIPLES THAT SHOULD INFORM THE EVALUATION OF TIP EXPERIMENTS.

1. **Formative evaluation**. Evaluation aims at improving policy definition and implementation through the involvement of all relevant policy stakeholders in the evaluation process. Formative evaluation requires the development of specific capabilities in the organisations that implement it. Our formative approach supports second-order learning and reflexivity on the part of the participants. This might lead to a fundamental re-think of how problems are defined, and what solutions are considered appropriate. It is also a constructive approach to the emergence of failure: failure is seen as providing learning opportunities on the context, conditions and activities conducive to transformation processes. Evaluation for TIP is like an experiment in itself and reinforces the necessary connections between evaluation and other core activities of TIPC, like capacity building, experimentation and research. Evaluations can also help refine transformative innovation theory by providing information about different change processes triggered by different types of policies across the world.

2. **Integrate evaluation within policy design and implementation processes**. We see evaluation as part of the policy process and, therefore, as a task that should share the overall characteristics we aim this process to have. Specific policies, their implementation and evaluation should be coherent with stated innovation policy goals (directionality, societal goals, participation and the system impact criteria for TIP). Evaluation is understood as a strategic part of the design and implementation process of a public policy.

3. **A nested approach to evaluation**. Evaluation needs to address the different levels of policy intervention, from specific projects at niche and local level, through programmes incorporating sets of projects, to complex policy interventions involving different programmes. Evaluation should be conducted at all levels in a coherent and consistent way. A nested approach requires us to, first, identify the policy level we aim to evaluate and its governance. The level of intervention could be: (1) a set of complex policy interventions (policy-mix) covering a broad area of public sector activity; (2) a programme of activities with an allocated budget and a pre-defined timeline for its implementation that involves several discrete projects; and (3) specific projects implemented by an individual or team of individuals to address specific aspects and objectives of the programme to which they contribute.

4. **Participation**. Evaluation should facilitate participation and open debate and should not avoid conflicts of power, interest and perceptions. The groups and communities with a role in the evaluation process will be varied and have different access to resources and, even, different interests. Managers and grassroots participants, for instance, may have different perspectives on the definition of the problems to be addressed, and be unequal in terms of the power they hold. An evaluation design should be attentive to such differences. At the same time, evaluation should be open and reflexive enough to capture emerging trends and problems, and incorporate new goals and actors.

5. **Methodological diversity**. Rather than using formalised standard protocols, we need to be adaptable and flexible, selecting different methods and techniques according to the context, and the participatory and transformative nature of the policy. The measurement of social and environmental impact is often difficult to be achieved with "standard" indicators. This difficulty is in part attributable to the nature of social values, which are often linked to incommensurable dimensions and perceived differently depending on cultural background and personal preferences. In these situations, qualitative methods can provide a better approximation to the study of social impacts by providing a fined-grained, contextualised description of change processes through detailed narratives. Finally, participatory techniques can help increase participation and the inclusiveness of the evaluation process, and allow a more horizontal involvement of the actors.

6. **Theory of change**. We propose to define and adopt a generic Theory of Change (ToC) to support evaluation. This generic ToC should be informed by transformative innovation theory to help distinguish the key dimensions of a policy experiment: context, structure, processes, outcomes and impacts. Every evaluation of specific TIP experiments should be based on specific theories of change (ToCs) consistent with the generic one. Each specific ToC should be flexible and it can be revisited as a result of the formative evaluation process. A specific ToC should distinguish the key dimensions of an intervention: the specific context in which the experiment operates, the specific problems it needs to tackle to achieve its objectives, the mechanisms (processes) the experiment aims to deploy with the resources available, the expected outcomes it aims to achieve, and how these outcomes are important for the unfolding of a socio-technical system transformation.

A GENERIC THEORY OF CHANGE FOR EVALUATING TIP

Our interaction with policymakers in TIPC suggested the importance of anchoring evaluation on a generic ToC that would help build a common rationale and theory-base justification for TIPs: a stylised view of the transformative change processes derived from transitions theory. The ToC provides a frame for the assessment of the downstream contributions of current policy interventions.

Following programme theory conventions, our generic ToC is formed of five elements: context, structure, processes, outcomes and impacts. However, we define each element to align it with the multi-level perspective adopted by transitions theory (Figure 1):

- Context: elements of landscape and socio-technical regimes
- Structure: resources available to actors to enact change
- Processes: the experiments and their activities
- Outcomes: changes in people and organisations, including changes in networks, capabilities and learning, and expectations and visions
- Impacts: long term effects produced by outcomes (related with big societal challenges, like those addressed by the Sustainable Development Goals)
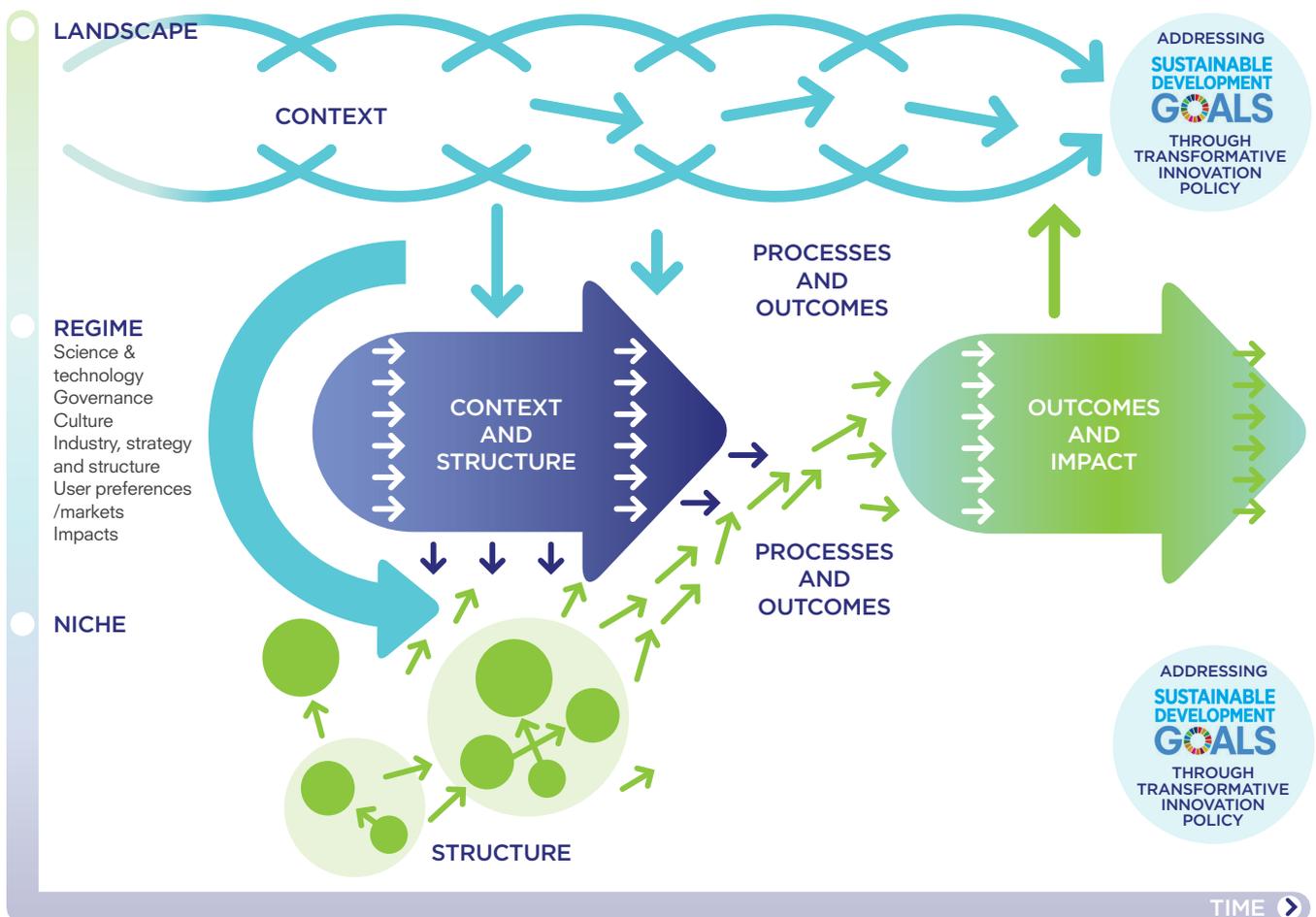

FIGURE 1. A GENERIC THEORY OF CHANGE FOR TRANSFORMATIVE INNOVATION POLICY EVALUATION

POLICY IMPLICATIONS

- **A formative approach focussing on second-order learning** implies clarifying partners' expectations (often implicit and contrasting) and their problem framing, and challenging partners' deep assumptions. It would also require being open to emerging issues, adopting long-time frames and flexible evaluation designs.

- **Integration within policy design and implementation** implies continuous and adaptable evaluation from project launching to the end of the project, as well as specifying the evaluation strategy in project application and co-constructing evaluation in between to funding agencies, partners, external consultants, etc.

- A **nested approach** implies evaluating the embedding of projects within programme goals and activities, or identifying and exploring linkages with other projects of the same programme. This could raise issues about identifying emerging synergies, or a proactive role for funding agencies.

- **Participation** implies broadening and deepening stakeholders involvement in project evaluation (e.g. including civil society or marginal actors), and being aware of potential and actual conflicts of interests. It would also require letting the stakeholders define what a 'challenge' or a 'system transformation' is.

- **Mixing evaluation methods** implies to be methodologically flexible and adaptable to formative evaluation needs, e.g. using participatory methods to stress external experts' evaluations, or mixing participatory methods with quantitative modelling.

FURTHER INFORMATION

This briefing is based on work conducted between January 2018 and February 2019 as part of the core programme of the Transformative Innovation Policy Consortium www.tipconsortium.net

KEY REFERENCES

Boni, A., Giachi, S., Molas-Gallart, J. (2019). Towards a framework for Transformative Innovation Policy Evaluation. TIPC Final Report. Available at: [INSERT LINK]

Chataway, J., Daniels, C., Kanger, L., Schot, J., Steinmueller, E. (2017). Developing and Enacting Transformative Innovation Policy. Presented at the 8th International Sustainability Transitions Conference, Gothenburg, Sweden, 18 – 21 June. Available at: http://www.tipconsortium.net/wp-content/uploads/2018/04/Developing-and-enacting-Transformative-Innovation-Policy-A-Comparative-Study.pdf

Heiskanen E., Matschoss K. (2018). Evaluating Climate Governance Experiments. Participants' Perspectives on Low-Carbon Experiments in Finland. In B. Turnheim, P. Kivimaa, F. Berkhout (Eds.), Innovating climate governance: Moving beyond experiments, Chap. 10: 182-200. Cambridge: Cambridge University Press.

Luederitz, C., et al. (2017). "Learning through evaluation – A tentative evaluative scheme for sustainability transition experiments." Journal of Cleaner Production 169: 61-76.

Schot, J., Steinmueller, W. E. 2018. Three frames for innovation policy: R&D, systems of innovation and transformative change. Research Policy, 47(9), 1554-1567.

Taanman, M. (2014). Looking for Transitions. Monitoring approach for sustainable transition programmes. Doctor, Erasmus Universiteit Rotterdam. Available at: https://repub.eur.nl/pub/77582/Looking-for-transitions.pdf