

TIPC POLICY BRIEF

A TRANSFORMATIVE INNOVATION
POLICY CONSORTIUM POLICY BRIEFING
ISSUE 2 | APRIL 2019

TRANSFORMING EXPERIMENTATION: EXPERIMENTAL POLICY ENGAGEMENTS AND THEIR TRANSFORMATIVE OUTCOMES

SUMMARY

In a TIP approach policy experimentation is needed at all stages of transformation. This research briefing provides an overview of the various practices, rationales and approaches associated with experimentation and gives some examples in practice from TIPC member countries. These are termed 'Experimental Policy Engagements' (EPEs). It proposes that individual and a portfolio of EPEs can lever specific transformative outcomes, which connect to three processes of transformation: successful niche building, niche expansion and embedding, and destabilisation and opening up of socio-technical regimes. It proposes 12 'Transformative Outcomes'.

The work itself is experimental and we plan to further develop the understanding and usefulness of the transformative outcomes by working in practice in a co-creation process with TIPC members.

This briefing has been adapted from a longer report published by the authors in March 2019.

12 TRANSFORMATIVE OUTCOMES

Successful niche building

1. **Shielding** – broadening and deepening
2. **Learning** – broadening and deepening
3. **Networking** – broadening and deepening
4. **Expectation dynamics** – broadening, deepening, opening up

Niche expansion and embedding

5. **Upscaling** – increasing user adoption
6. **Replication** – local and trans-local
7. **Circulation** – accumulating and intermediating
8. **Institutionalisation** – creating formal and informal rules

De-stabilisation and opening-up of regimes

9. **Destabilisation** – de-aligning/disrupting subsystems and regimes
10. **Opening up** – unlearning and deep learning of regime actors
11. **Empower niche-regime interactions**
12. **Changing perceptions of landscape pressures**

SUMMARY OF EPES

The TIPC work identified and compared five modes of experimental engagements as shown in table 1. There are clear overlaps and complementarities between the different modes. To address an issue, policy-makers may make recourse to various engagements at different times.

TIPC may want to work on all modes, except perhaps RCTs. It can work towards developing its members' capacity for employing the whole pallet of engagements (EPEs).

MODES OF EXPERIMENTAL POLICY ENGAGEMENT	MODE 1: POLICY DESIGN EXPERIMENTS	MODE 2: POLICY INSTRUMENT AND POLICY PROCESS EXPERIMENTS	MODE 3: CREATING EXPERIMENTAL SPACES	MODE 4: SUPPORTING, CONNECTING AND EVALUATING SOCIETAL EXPERIMENTS	MODE 5: EXPERIMENTAL GOVERNANCE CULTURE
Role of experimentation in policy	Assists in the formulation, calibration and justification of policy instruments	Setting up of specific experimental policy interventions in the form of new policy instruments or policy processes tried out temporally or in a small scale.	Creates dedicated environments and a constituency for experimentation, where the normal conditions (e.g. regarding permits, taxation) are relaxed.	Articulates existing experiments carried out by multiple actors, facilitates learning from and between experiments, and supports the development of networks.	Creates flexible and proactive governance arrangements, including open-ended goals, allowing decentralised and experimental interventions by multiple actors.
Actors involved	Policymakers, and recipients of the policy treatment	Policymakers and policy analysts, stakeholders involved in the experiments	Lead users, entrepreneurs, technology advocates, designers, civil society actors, policymakers	Networks implicated in experiments, intermediaries and policymakers	As others, but with the aim of broadening participation to actors normally excluded from policy process
Approaches	Randomised Control Trial, Behavioural Experiments	Experimenting with new formats in established policy instruments/ processes (programmes, subsidies, regulation)	Urban Living Labs, policy labs, walk-shops, transition arenas	Intermediary organisations and platforms, workshops, online resources	Strategies and initiatives to promote experimental culture; rewarding reflexivity and learning

EXAMPLES OF EXPERIMENTAL POLICY ENGAGEMENTS IN TIPC MEMBER COUNTRIES

The sections below provide short examples of some approaches to experimentation and EPEs in TIPC member organisations. These can be described as early impressions based on one interview per member organisation and a half day workshop in the TIPC engagement week in September 2018. The interviewees made a choice regarding what examples were brought forward and we supported these with literature where available. While we cannot provide an overview of experimentation or EPEs connected to TIPC in member countries, we can obtain insights into some of the approaches the member organisations have taken towards experimentation for transformative change, and the issues encountered.

EXPERIMENTAL CULTURE, SPACES AND SUPPORT FOR EXPERIMENTS IN FINLAND

The discussion with Business Finland was conducted in the presence of a representative of the experimental team at the Prime Minister's Office. As the discussion mainly focused on the activities coordinated by the PMO, insights were not generated specifically on Business Finland's experimental activities, although innovation vouchers were mentioned. However, the innovation case history on sustainable mobility conducted in TIPC¹ showed how Business Finland is capable of initiating more experimental activities and support for niche processes beyond its standard activities.

The Finnish government adopted a specific aim for advancing *experimental governance culture* in the government programme of 2015. The implementation was supported by setting up a team for experimentation in the PMO, undertaking tasks, such as support to small experiments (both financially and through digital tools), facilitating the *democracy* aspect in experiments, and aiming for better public services. The funding rounds have focused on three themes: circular economy, artificial intelligence, and digital support for social and health care personnel. The calls aimed to avoid heavy administrative procedures and commitment to predefined outcomes

(allowing exploration and risk to fail), thus, emphasising novelty value and the team involved as main evaluation criteria. There was also an aim to experiment directly in the policy level, e.g. through the basic income and freedom to choose public health care provider *policy instrument experiments*. *Learning* has been facilitated by presentations and training regarding how to build up experimental settings, in particular in the agencies working under the supervision of ministries. All the issues have not yet been resolved, e.g. how to increase the courage of civil servants in making decisions favouring experimentation (especially in across administrative domains) and how differing treatment of policy target actors is legally dealt with. As the initiative is fairly recent, time will tell to what degree learning for policy formulation and cultural change is achieved in practice.²

Environmental or social sustainability have not been core drivers of experimental culture in Finland but some aspects have connected to it, e.g., through the focus on experimental activity on circular economy or basic income. Overall we would like to conclude that experimentation could become more systematically connected to transformation; such a focus is largely missing.

Preceding the PMO activity, experimentation has occurred through *experimental spaces*, typically city-level (e.g. the Smart Kalasatama district in Helsinki), and *supporting, connecting and evaluating experiments* (e.g. the Carbon Neutral Municipalities Network, HINKU). Smart Kalasatama (2009-ongoing) was selected as a national pilot project and functions as an "experimental innovation platform to co-create smart urban infrastructure and services in close co-operation with residents, city officials and other stakeholders... within the new Kalasatama district of Helsinki".³ An important role has been carried out by an innovation intermediary, Forum Virium owned by the City of Helsinki, that has: expanded the scope of experimenting from business models and technology development to smart living and co-development of services (open data, transport,

¹ <http://www.tipconsortium.net/about/>

² Kemp, R, Schot, J, Hoogma, R, 1998. Regime shifts to sustainability through processes of niche formation: The approach of strategic niche management. *Technology Analysis & Strategic management* 10, 175-198.

³ Schot, J, Geels, F, 2008. Strategic niche management and sustainable innovation journeys: theory, findings, research agenda, and policy. *Technology Analysis & Strategic management* 20, 537-554.

sharing economy); encouraged resident participation and new actor-networks between incumbent businesses SMEs and other actors (disrupting established business alliances and creating a Developers Club); and transferring learning from international initiatives.⁴

The Carbon Neutral Municipalities HINKU network has expanded from 5 small municipalities in 2008 to over 30 smaller and larger ones in 2017. The goal is to reduce CO2 emissions by 80% by 2030 and to get municipal officials and politicians committed to change. The network is self-organising but the Finnish Environment Institute (SYKE, government research organisation) has been instrumental in supporting and intermediating the process between the municipalities and transferring learning. On the ground several bottom-up experimental projects have been carried out involving local inhabitants and businesses, particularly in the cleantech area. The joint purchase of solar panels experiment has been the most visible example of replication within the network.⁵

EXPERIMENTAL SPACES IN SOUTH AFRICA

Living Labs in South Africa have been used to advance open innovation, especially in rural communities, since the 1990s. They have been defined as “multi-partner, multi-component and multi-disciplinary efforts to address community problems through the use of technology”, addressing emerging economies, community wellbeing, education and social media by forming platforms or ecosystems for co-creation.⁶ In effect, different living labs comprise different types of experiments due to a range of ownership models, purposes and working formats. They share a focus through the development, prototyping and use of ICT-related products and services.

The LLiSA Network, hosted by the Council for Scientific and Industrial Research (CSIR) a research and development organisation responsible to the Minister of Science and Technology, advances the setting up of living labs in South Africa and facilitates national and international collaboration to enable learning through shared experiences, challenges and best practice.⁷ The Department of Science and Technology (DST) has also been involved for about 5 years, and sees living labs good initiatives to ‘wicked problems’ when other policies are ineffective; but the DST’s activities are constrained by the nature of government departments.⁸ In living labs’ co-creative processes “[p]rimary goals and objectives are established through engagement with all key stakeholders. This process is strengthened by the creation of an institutional memory through the establishment of a sense of community-owned challenges, and identification of good practices through the development of evaluation tools, training modules and databases of stakeholders, and clarifying Intellectual Property Right (IP) issues.”⁹ For example, a living lab for mobile learning reported as success factors – a commonly owned vision, strong leadership, and self-sustaining format.

From a transformation perspective the aims of SA living labs regarding community empowerment, capacity building and breaking lock-ins are important. They also allow a higher risk of failure to experimental initiatives than more traditional policies.¹⁰

COLOMBIA - EXPERIMENTATION THROUGH CHALLENGE-LED CALLS

The Green Book policy document (Libro Verde 2030), developed in cooperation between Colciencias – Department of Science, Technology and Innovation, TIPC and University of Sussex, as a step towards *experimental governance culture in Colombia*. Libro Verde outlines

⁴ Ibid.

⁵ Ibid. Lukkarinen et al. 2017. An intermediary approach to technological innovation systems (TIS)—The case of the cleantech sector in Finland. *Environmental Innovation and Societal Transitions* 26: 136-146.

⁶ Coetzee, H, du Toit, I-M, Herselman M. 2012. Living Labs in South Africa: An analysis based on five case studies. *The Electronic Journal for Virtual Organizations and Networks*, Vol 14.

⁷ Callaghan, R, Herselman, M. 2015. Applying a Living Lab methodology to support innovation in education at a university in South Africa. *TD The Journal for Transdisciplinary Research in Southern Africa*, 11(1):21-38.

⁸ Interview with Imraan Patel, DSE, September 2018.

⁹ Callaghan et al. 2015, p. 25.

¹⁰ Interview with Imran Pateel, DSE, 21.9.2018.

steps for creating an innovation system that is inclusive, open and experimental, and aims to address and provide alternative ways to deal with societal challenges – it moves policy makers to positions of facilitators for innovation processes.¹¹

Prior to that challenge-led grants have been the main EPE in innovation policy, a *policy instrument and process experiment*. There has been no formal approach to experimentation in Colciencias but they have been supported by a new generation of policymakers, and challenge-led grants have created spaces for experimentation through their differing perspective on the role of STI in transformation compared to traditional calls. For example, one of the grants has a call for proposals for peace and sustainable communities, addressing the needs of communities (e.g. water, energy) in areas of conflict and involving actors to co-creation from a previously isolated community. The programme associates with the broader challenge of peace building in Colombia, but at present mechanisms are not in place for learning and contributing to the wider challenge. The evaluation and learning activities are undefined and non-formalised from this call.¹²

Some scope for EPEs are also provided through internal workshops at Colciencias for design and monitoring (Talleres de diseño y seguimiento), while a lot of what can be described as experimental happens 'by necessity', when civil servants and policymakers seek to circumvent the scarcity of funds or the challenges specific to Colombia, for which there are no self-evident solutions in STI policy (e.g. defusing conflict, reintegrating ex-combatants). These co-exist with a strong divide between experimental activities and the traditional role of the agency, i.e. implementing conventional programmes.¹³ Thus, there is a need for discussing and thinking about how to more systematically integrate the idea of transformative EPEs in Colciencias, and what kind of support structures are needed to better support a culture of experimentation.

CHALLENGE-ORIENTED CALLS FOR EXPERIMENTATION IN MEXICO

There is no formal approach to experimentation in the National Council of Science and Technology, CONACYT. The organisation works primarily through calls for proposals, and they have been experimenting tacitly with different approaches for more challenge-oriented calls with flexibility to design bespoke calls for specific challenges. There is a great deal of experimentation in Mexico; the main strategic programme of the new CONACYT administration is called PRONACES, and is like a Grand Challenge programme addressing critical issues of migration, water pollution and violence.

The setup of the programmes, that only constitute a small part of CONACYT's overall programme portfolio, tends to be top-down challenge formulation. However, successful proposals are encouraged to spend the early phases of the project fleshing out the problem. The programmes allow for more room for stakeholders to implement projects which are more responsive to the learning process, rather than too constrained by deliverables (unlike traditional programmes that require specific outputs and include checks that they have been delivered).¹⁴

An example is the Mixed Funds FOMIX programme that is not constrained by traditional institutional arrangements and brings together different actors for collective learning. The programme allows for a two-step approach, in that the members of the state government, civil society, or researchers express ideas that CONACYT then works with to better understand the problem (challenge). The group conducting the project has to present a diagnostic of the problem to an international consulting group and get feedback, before they begin to implement research and innovation. The programme is framed differently in different regions of the country.¹⁵

¹¹ www.tipconsortium.net

¹² Interview with Maria Isabel Velez Agudelo and Diego Andres Chavarro 6.9.2018.

¹³ Interview with Maria Isabel Velez Agudelo and Diego Andres Chavarro 6.9.2018.

¹⁴ Callaghan et al. 2015, p. 25. Interview with Emilio Martinez de Velasco Aguirre & Teresa de Leon Zamora, Conacyt, Mexico 3.9.2018

¹⁵ Emilio Martinez de Velasco Aguirre & Teresa de Leon Zamora, Conacyt, Mexico 3.9.2018

RESPONSIBLE RESEARCH AND INNOVATION IN NORWAY PAVING THE WAY

Responsible research and innovation has been an important influencer in Norwegian science and innovation policy (see TIPC pilot year case study). The Research Council of Norway (RCN) is gradually advancing experimental initiatives. Experiments can be seen as strategically important while typically carried out bottom up.¹⁶

For example, the Digital Life Norway may be seen as a 'governance experiment' by creating new types of coordinator positions and a research school (within which experimentation occurs). Further it aims "to create economic, societal and environmental value for Norway from biotechnological research and innovation through encouraging transdisciplinary research".¹⁷ These may be signs of an emerging *experimental governance culture* at RCN. This interpretation is backed up by a white paper "Strategic Initiative Digital Life – Convergence for Innovation" and a virtual centre that functions as a learning platform,¹⁸ a potential mechanism for *supporting experimentation*. In a sense, RCN is 'caring' for its investments and finding out new ways of working. However "without the prior development of the RRI framework, conducted as an extensive collaborative and cross-cutting process (October 2013 – December 2015), together with the international advisory group, collaborating with EPSRC-staff and the boards of the large-scale technology programmes, countless meeting and discussions with stakeholders and business, neither the call process nor the DLN would have experimental qualities".¹⁹ As part of this process, learning platforms were sought in the proposals and it required researchers to rethink their roles as citizen scientists to explore hidden understandings of what they do and unintended consequences of their work.²⁰

While Digital Life Norway aims for environmental and social value, transformation aims have been described to relate to transforming the research and innovation system as a whole to be more anticipatory, reflexive, inclusive and responsive.²¹ These aims are clearly aligned with TIPC aims, while the meeting ground between RRI practices and transformation needs further exploration. From the perspective of TIPC, further EPEs could engage in combining transformation in processes with the strengthening expectations regarding environmental and social value, and how the processes could be embedded more broadly into the system.

CHALLENGE-DRIVEN INNOVATION AND POLICY LABS IN SWEDEN

VINNOVA is the Swedish government agency for funding R&D and innovation. It has long oriented to new ways of working and has experimented with how to embed continuous reflexivity into the organisation and carried out challenge-driven programmes. For example Challenge-Driven Innovation (CDI) is a programme launched in April 2011. The main aim is to fund projects that develop sustainable solutions for tackling current societal challenges. Cross-sectoral cooperation between a variety of public and private stakeholders is encouraged and prominence is placed on a more holistic approach to innovation, including social and organisational aspects. Challenges in this context are understood not just as a threat but also as an opportunity for economic growth. This had led to a programme design that is believed to stimulate opportunities for transformative innovations by encouraging demand, challenge and user-driven projects spanning various actors and industries. Some key insights which have emerged from this experience are that: (1) challenge-driven funding schemes demand moving away from disciplinary organisational structures; (2) bottom-up approaches also need guidance – for many actors it may be more difficult to respond to a completely open programme than it is to understand what

¹⁶ Elisabeth Gulbrandsen & Ellen Veie, Research Council of Norway, 3.9.2018

¹⁷ RCN, 2016. Strategic Initiative Digital Life – Convergence for Innovation. Accessed 20/3/2019: file:///C:/Users/pk230/Downloads/DigitalLife-astrategicinitiativeinBI OTEK2021.pdf

¹⁸ Email communication with Elisabeth Gulbrandsen 27.9.2018

¹⁹ Email communication with Elisabeth Gulbrandsen 27.9.2018

²⁰ Elisabeth Gulbrandsen & Ellen Veie, Research Council of Norway, 3.9.2018

²¹ Email communication with Elisabeth Gulbrandsen 27.9.2018

is expected (designing flexible, adjustable guidelines could be the key); (3) reflection, evaluation and revision is vital – new programmes and mechanisms have unintended consequences that need to be understood and addressed. New schemes should therefore allocate time and efforts for reflection and evaluation and be prepared to revise the instruments continuously. Finally, (4) sustainability transitions require policy mixes – no one single instrument will be sufficient to address all challenges in a sector. Instead, different instruments should be coordinated in order to stimulate and foster various activities that as a whole enable system transformation.²²

This has generated a learning journey and, for example, Strategic Innovation Programmes have been added to the portfolio. However the approach has not yet been institutionalised. In addition, while programmes set explicit measures to open up networks for new collaborations and crossing policy silos, outcomes regarding the support for experiments has been limited.²³

One of the example EPEs in VINNOVA has been their funding for policy labs. The idea behind policy labs has been to create a space for different actors across policy domains to meet to strengthen the authorities' ability to meet the issues and needs that may arise during the innovation process for innovative companies in regulated industries, in aiming for sustainable social development.²⁴ For example, there is a link between start-up funding from VINNOVA and the regulation of start-ups by the Financial Regulation Agency, which could be better addressed through joint policy labs.²⁵ It is also regarded as important

that those who are affected by the rules must be represented in the policy lab. VINNOVA also funded a policy lab in the Swedish Tax Agency from December 2017 to April 2018 that aimed to explore how to get more private people to declare tax from letting their private residence, and is currently funding a design policy lab work by a university. There is also an interest in transition labs.²⁶ The focus in policy lab work is the joint exploration and learning. Thus, potential for transformative innovation policy, is to connect the ongoing policy lab work better to the activities to tackle grand challenges that are at the heart of many of VINNOVA's programmes.

CONCLUSION ON EPES IN MEMBER COUNTRIES

It appears very likely that in all the member countries there is a lot more experimentation conducted by members, other government organisations, and other actors. Some of these experiments were referenced during the interview. In Finland, these activities include, for example, those conducted by the Prime Minister's Office experimentation team or the Finnish Environment Agency under the Ministry of the Environment. In Colombia, the policy innovation labs coordinated by the National Planning Department is another example. Overall, urban living labs are proliferating,^{27 28 29 30} while there is also an increasing interest in policy labs in many of the member countries. It needs to be discussed whether it makes sense to explore a wider range of experimental initiatives in member countries from a transformative point of view in a far more systematic way during the second TIPC working programme year.

²² TIPC TILH Case Study Sweden, Fuenfschilling, L.; Bauer, F.; Clemente, J. (2017)

²³ Grillitsch, M, Hansen, T, et al. 2019. Innovation policy for system-wide transformation: The case of strategic innovation programmes (SIPs) in Sweden. *Research Policy* 48(4), 1048-1061

²⁴ <https://www.vinnova.se/en/m/inspiration-for-innovation/finansinspektionen-startar-nytt-innovationscenter/>

²⁵ Interview with Jacob Hellman, Vinnova, 5 September 2018.

²⁶ Anderson, N, Ernits, H, Stolz Ehn, A-K 2018. Från living labs till transition labs

En forskningsöversikt och kartläggning av innovationsmiljöer för hållbara städer. VINNOVA rapport 2018:03. https://www.vinnova.se/contentassets/f7b65278f6274c11a2ad5d865896073d/vr_18_03.pdf

²⁷ Acuto, M, Steenmans, K, Iwaszuk, E, Ortega-Garza, L. 2018. Informing urban governance? Boundary-spanning organisations and the ecosystem of urban data. *Area*, DOI: 10.1111/area.12430

²⁸ Coetzee, H, du Toit, I-M, Herselman M. 2012. Living Labs in South Africa: An analysis based on five case studies. *The Electronic Journal for Virtual Organizations and Networks*, Vol 14

²⁹ Korsnes, M, Berker, T, Woods, R. 2018. Domestication, acceptance and zero emission ambitions: Insights from a mixed method, experimental research design in a Norwegian Living Lab. *Energy Research & Social Science* 39:226-233

³⁰ von Wirth, T, Fuenfschilling, L, Frantzeskaki, N, Coenen, L. 2019. Impacts of urban living labs on sustainability transitions: mechanisms and strategies for systemic change through experimentation. *European Planning Studies* 27(2):229-257.

When designing EPEs or interventions for existing EPEs, it has to be taken into account that all member organisations have differing mandates and organisational formats. Context really matters. The most typical examples within member organisations are challenge-related research funding programmes that address social or environmental sustainability. Many EPEs may, however, need collaboration across government sectors and reach out to non-innovation policy domains. This need is increasingly recognised by TIPC members, and some initiatives, e.g. policy labs exist.

The existing EPEs were often mentioned to exist in the margins of the activities of the member organisations, and even then sometimes hampered. For example, the challenge-related calls in Sweden and Responsible Research and Innovation calls in Norway were influenced by rules and bureaucracy regarding how innovation funding is conventionally organised. Similar experiences were reported from other countries.

At the same time, some cultural changes towards experimentation were observed through a new generation of policymakers, and increased focus on integrating aspects of responsible research and innovation. Overall, it is clear that the culture of policymaking changes slowly, and there will be variation between civil servants in terms of how open-minded or risk averse they are vis-à-vis EPEs. In many places, the existing regulatory and institutional structure still favours traditional RDI funding formats. Yet at the same time, member organisations mentioned the move away from requirements pertaining to specific outcomes/deliverables to transformative solutions/outcomes and a wish for acceptance of a higher risk of failure.

Our overall conclusion from the interviews is that there is a strong interest in EPEs, while at the same time there is a need for better ways of assessing whether they will lead to transformative outcomes. This will help to legitimise EPEs and may help navigate institutional hurdles. For this reason our work has been focused on identifying a portfolio of leverage points for EPEs, which we call *transformative outcomes*. This work has been based on desk research (literature review) and discussions during the TIPC engagement week. We want to emphasise that these transformative outcomes should be seen as *an input into a participatory co-creation process* with participants when EPEs are designed, implemented and evaluated. In this process certain elements could become prominent, and others may be added. The TIPC evaluation working group has developed a specific proposal for formative evaluation which incorporates the elements but also leaves ample place for such a co-creation process.

TRANSFORMATIVE OUTCOMES DERIVED FROM TRANSFORMATIVE PROCESSES

What forms of EPE are likely to induce desired transition dynamics? What 'terms of engagement' are most suitable for enabling transformations? To address these questions, we draw from a specific understanding of these dynamics derived from the sustainability transitions literature, and discussions with TIPC partners in various settings, to generate a list of *transformative outcomes* that could be considered and reflexively addressed on an ongoing basis to improve EPEs. These transformative outcomes do not point to fixed solutions; they draw attention to a set of questions and dilemmas (Table 2) that assist designing, further developing, conducting and evaluating EPEs (in a formative manner). Our proposition for transformative outcomes based on the transformative processes is:

Successful niche building

1. Shielding – broadening and deepening
2. Learning – broadening and deepening
3. Networking – broadening and deepening
4. Expectation dynamics – broadening, deepening and opening up

Niche expansion and embedding

5. Upscaling – increasing user adoption
6. Replication – local and trans-local
7. Circulation – accumulating and intermediating
8. Institutionalisation – creating formal and informal rules

De-stabilisation and opening-up of regimes

9. Destabilisation – de-aligning/disrupting subsystems and regimes
10. Opening up – unlearning and deep learning of regime actors
11. Empower niche-regime interactions
12. Changing perceptions of landscape pressures

The role of experimentation in niche building and niche expansion has been studied since the inception of the sustainability transitions literature. Meanwhile, its role in destabilisation and opening-up regimes has received much less attention. TIPC has the opportunity to address this gap and further explore this point which is relevant for contemporary transformations (e.g. concerning phase-out and divestment from fossil fuels). Due to the state of the art of the current literature some of the transformative outcomes are tentative and need further exploration which is planned for year 2.

TRANSFORMATIVE OUTCOMES	EXAMPLE QUESTIONS FOR EPES	RELATED DILEMMAS
-------------------------	----------------------------	------------------

NICHE CONSTRUCTION

<p>1 Shielding – broadening and deepening</p>	<ul style="list-style-type: none"> • What kind of shielding or protection mechanisms are provided by the EPE (e.g. finance, an arena for trial-and-error, exemptions from normal rules, a niche ‘market’)? • Does the EPE aim to generate new types of shielding or learn about how shielding works? 	<p>Shielding is usually necessary to provide an early protective space for a new niche. Regulatory and administrative rules may make shielding difficult or impossible. Shielding is likely to benefit some actors more than others.</p>
<p>2 Learning – broadening and deepening</p>	<ul style="list-style-type: none"> • Are there explicit objectives for learning in the EPE? • How is deep learning encouraged? • What support structures are created to enable overcoming administrative barriers or reduce sense of risk to individual? • How is risk of failure addressed? • How is learning distributed or transferred and evaluated? • Who benefits and who suffers from the learning generated? 	<p>Learning in multiple ways is crucial for transformation. Problems are created if learning remains within individuals or small groups, or if learning does not result in any change and is too shallow. Further, it can be difficult to detect whether more subtle and non-codified learning has taken place.</p>
<p>3 Networking – broadening and deepening</p>	<ul style="list-style-type: none"> • What range of different actors are included and supported in the EPE? • What does the new network aim at (e.g. new niche creation, niche acceleration or embedding in existing regime, unlocking path dependencies)? • To what degree are incumbent actors and newcomers involved in the EPE? • How are new kinds of actors found and mobilised? • How to involve incumbent actors but not let old views dominate? • In business networks, how is balance created between small and larger companies? • Who is coordinating the network, acting as an intermediary? • How different actors are included in the process or kept aware of the process (transparency)? • To what extent the people included represent the needs of the EPE target group? • How are more marginal ‘voices’ or groups taken into account? • How are the costs and benefits of the EPE distributed between different individuals, actors groups and the public and private sectors? 	<p>Transformation requires novel actors with novel ideas but they need to interact with incumbent actors to enable the diffusion of ideas of change to existing regimes. However, too strong incumbency can halt the process. The balance requires careful and continuous deliberation. Also, as networking is not the purpose but the means to seek transformation, the purpose of the EPEs defines in part useful forms of networking. Inclusiveness in some form is important to widen the support for the EPE. However, to engage a large group of people may slow down the process and also let more traditional views prevail (if knowledge of possible futures is weak). Just transitions also require a fair distribution of costs and benefits, while the opinions regarding what is ‘fair’ is likely to differ.</p>

TRANSFORMATIVE OUTCOMES	EXAMPLE QUESTIONS FOR EPES	RELATED DILEMMAS
-------------------------	----------------------------	------------------

NICHE CONSTRUCTION

<p>4 Expectation dynamics – broadening, deepening and opening up</p>	<ul style="list-style-type: none"> • Does the EPE include expectations regarding environmental or societal sustainability or does it address a specific transformation challenge? • How are different expectations accounted for and addressed? • How does the EPE represent a change of orientation to current practices? • How is the process for new vision creation enabled? • Is support available for multiple pathways addressing the challenge? • What is the level at which directionality comes to play in: overall strategic level, or programme or project level implementation? • How is the articulation of potentially changing expectations supported beyond the lifetime of the EPE? 	<p>Transformation implies a sense of direction formed by the creation and consolidation of expectations around niches. This, however, presents much uncertainty around what eventually will be sustainable solutions in the long-term. Thus, the expectations are not fixed and change along the way. Especially at niche building phase, alternative pathways should be explored.</p>
---	--	--

ACCELERATING AND EMBEDDING NICHE INNOVATIONS

<p>5 Upscaling – increasing user adoption</p>	<ul style="list-style-type: none"> • How does the EPE contribute to upscaling a niche, and which niche(s)? • Is there a strategy or purpose to upscale experiments during or after the EPE? • What is the approach to attract more users? • What are the benefits and drawbacks of the upscaling approach? • What barriers and opportunities are present? 	<p>Upscaling is a very instrumental and often technology-focused way to think about embedding, and it may not be well suited for all types of niches and experiments.</p>
<p>6 Replication – locally and translocally</p>	<ul style="list-style-type: none"> • How can the EPE enable the replication and learning from experiments/projects/niches? • What support structures are in place to advance replication and context specific adjustments for doing the same experiments elsewhere? 	<p>Replication can be a very good way to accelerate niches, but it is not always straightforward as context specific adjustments, i.e. ‘translation’, and learning are required.</p>
<p>7 Circulation – accumulating and intermediating</p>	<ul style="list-style-type: none"> • How can the EPE support the flow and circulation of knowledge and ideas, as well as resources, within the EPE? • Are specific intermediary actors or platforms set up to support circulation during the EPE? • What support is available to enable circulation after the EPE has ended? 	<p>Circulation has the advantage of taking into account real world ‘messiness’ but as it is so fluid it can be difficult to concretely advance.</p>

TRANSFORMATIVE
OUTCOMES

EXAMPLE QUESTIONS
FOR EPES

RELATED
DILEMMAS

ACCELERATING AND EMBEDDING NICHE INNOVATIONS

8 Institutionalisation – in formal and informal rules

- Are there processes in place to identify what are the ways in which an experiment/niche alternatives can become more permanent/mainstream?
- What are the mechanisms planned for institutionalising learning into rules and practices; and policy outputs into formal governance structures?
- Is the EPE proposing a more experimental actor-network configuration on a permanent basis?
- Who is the actor driving institutionalisation?
- Are specific intermediary actors in place to support institutionalisation?

The ideal time for institutionalisation is difficult to set, and any attempts may succeed or fail in creating more permanent change. Too early institutionalisation may lead to an ineffective outcome, if the experiment has led to non-desired effects. Further, vested interests may try to institutionalise experiments pre-maturely for economic/political gains – or prevent institutionalisation if experimentation is used as an avoidance strategy.

OPENING UP REGIMES AND UNLOCKING PATH DEPENDENCIES

9 Destabilisation – de-aligning/ disrupting subsystems and regimes

- How does the EPE aim to unlock path dependencies?
- How are barriers and path dependencies identified, and which are selected in focus of the EPE?
- How does the EPE stimulate regime actors to identify tensions between various regime dimensions, e.g., between market demand and technologies on offer, or between regulatory requirements and demand, with respect to the environmental and social sustainability challenges?
- Does the EPE provide potential for learning about alternative regime arrangements?
- Are social movements taken on board either in the process of identifying path dependencies and tensions, or in pursuing destabilisation?
- How are resistance and objections addressed?
- How is the transparency of the process guaranteed?

Destabilisation via disrupting subsystems within a regime or arrangements across several regimes may be necessary to rapidly respond to urgent environmental and social problems. However, it is difficult to persuade those in dominant positions who are often beneficiaries of the current regimes. Social movements, systemic intermediaries and institutional entrepreneurs can facilitate destabilisation processes, but the influence of their actions is dependent on a range of factors (e.g. mandate, resources, credibility and neutrality in the eyes of other actors).

TRANSFORMATIVE
OUTCOMES

EXAMPLE QUESTIONS
FOR EPES

RELATED
DILEMMAS

OPENING UP REGIMES AND UNLOCKING PATH DEPENDENCIES

**10 Opening up -
unlearning and deep
learning or regime
actors**

- Does the EPE encourage regime actors to question their own assumptions, cognitive beliefs and values?
- Do they identify anomalies clearly?
- Do they re-assess the potential of applying regime rules for solving problems?
- To what extent does the EPE provide new ways of working and being to enable reconfiguration?

Opening up is important to enable regime actors to see alternative options and new opportunities and pressures clearly. However, unlearning and deep learning can be costly, requiring new organisational and administrative structures.

**11 Empowering
niche-regime
interactions**

- How does the EPE support regime actors to build new alignments and networks with niche actors and perhaps also with new actors who favour specific transformations?
- Are the efforts addressing a particular niche or multiple niche pathways?
- Are the networks created formal or informal, small or large?
- How are more marginal 'voices' or groups taken into account?
- How the costs and benefits of the EPE are distributed between niche and regime actors?

New forms of alignment brings questions about a just distribution of costs and benefits. Uncertainties regarding the future may favour an approach that building connections to multiple niches, but then limits resources allocation to and deepening knowledge about a particular niche.

**12 Changing
perceptions of
landscape pressures**

- How does the EPE encourage regime actors to re-assess the importance and requirements of landscape developments (trends and shocks) related to environmental and social problems?
- How are changing perceptions of landscape pressures leading to new or changed expectations regarding the regime or viability of new niches?

Re-assessing landscape developments brings questions about whether to promote and socialise certain views and lobby for them.

CONCLUSIONS



In this briefing we proposed five types of experimental policy engagements (EPEs), of which at least four are potentially useful as part of transformative innovation policy: experiments within the confines of traditional policy instruments and processes; policymakers creating new experimental policy spaces and arenas; policymakers supporting already ongoing experimentation by supporting and consolidating learning (e.g. via intermediary actors and platforms), and policymakers engaging with more permanent forms of experimental culture – which may include the four other forms of EPEs.

We have initiated our exploration of this topic by a brief survey and interviews with participating TIPC member organisations. This shows that interesting experimental initiatives are taking place in TIPC member countries, but they are only a start in the journey towards transformative innovation policy. While transformative in some aspects, they do not yet take into account the broad array of elements needed to support transformation via experimentation.

Therefore, in this document, we propose a portfolio of 12 transformative outcomes drawing from the sustainability transitions literature, and have elaborated a tentative set of questions to aid their application in formulating or further developing EPEs. Further, we argue that it is important to recognise that experimentation is needed and can take place to support transformation processes of *niche building and expansion as well as regime destabilisation and opening up*. The specific categorisation of four regime destabilisation and opening up outcomes (destabilising, opening up, empowering niche-regime interactions, and changing perceptions of landscape pressures) is also a new contribution to the academic literature. Our elaboration of this dimension needs more work. We plan to further develop the understanding and usefulness of the transformative outcomes in concrete work with TIPC members on new and existing experimental engagements. In this work we aim to integrate the transformative outcomes into a formative evaluation method as developed and proposed by TIPC.³¹

³¹ Boni, A, Giachi, S, Molas-Gallart, J, 2019. Towards a Framework for Transformative Innovation Policy Evaluation, TIPC report March 2019.



AUTHORS

Johan Schot

(University of Utrecht)

j.w.schot@uu.nl

Paula Kivimaa

(SPRU, University of Sussex)

paula.kivimaa@sussex.ac.uk

Jonas Torrens

(University of Utrecht)

j.colenladeiatorrens@uu.nl



CONTACT

Science Policy Research Unit,
University of Sussex Business School
University of Sussex, Brighton, BN1 9SL United Kingdom



EMAIL

TIPC@sussex.ac.uk



WEBSITE

www.tipconsortium.net



TWITTER

[@TIPConsortium](https://twitter.com/TIPConsortium)