

Social innovation, transformation, and public policy: towards a conceptualization and critical appraisal

Jakob Edler^{1,2,*}, Katrin Ostertag¹, Johanna Schuler¹

¹Fraunhofer Institute for Systems and Innovation Research ISI, Breslauer Straße 48, Karlsruhe 76139, Germany

²Manchester Institute of Innovation Research, Alliance Manchester Business School, University of Manchester, Booth Street West, Manchester M15 9PB, UK

*Corresponding author. Fraunhofer Institute for Systems and Innovation Research ISI, Breslauer Straße 48, Karlsruhe 76139, Germany.
E-mail: jakob.edler@isi.fraunhofer.de

This article conceptualizes the role of social innovation (SI) in transformational innovation policy, identifies policy options, and points out potential risks of mobilizing SI for transformations. We illustrate our conceptual claims based on selected policy examples and propose a set of distinctions about the basic role of policy for SI in the context of transformation. We distinguish the importance of SI for the two policy approaches: transformative innovation policy and mission-oriented innovation policy. It follows that politics must differentiate between the various types of SI and their different significance for missions and transformations. To decide whether and how policy intervenes, *ex ante* and *ex post* analyses of the transformational effects of SI and the policies that act on them must be developed and applied. It is crucial to accompany and promote the diversity of SIs politically in such a way that they can constructively unfold their transformation potential.

Key words: social innovation; policy; transformation.

1. Introduction

It has been a commonplace for some time that multiple social practices and value systems must change for the major socio-economic and sociotechnical transformations to which we as a society are committed and which we are trying to intentionally accelerate (Rückert-John et al. 2016; Schartinger et al. 2017; Hoppe and Vries 2018; Geels et al. 2019; Wunder et al. 2019). In this process, transformation and social behaviour are interdependent: social practices need to change in order to make transformation happen. The transformations to a circular economy, to sustainable mobility or to CO₂-neutral energy production and use, to which we commit ourselves as societies, are inconceivable without a change in consumer behaviour and an increased and broadened societal willingness to change. At the same time, the behavioural changes of social groups often initiate and promote broader important transformative developments.

The deliberate, intentional change in social practices is widely referred to as social innovation (SI). In this article, we understand SI as ‘an intentional, purposeful reconfiguration of social practices in specific fields of action or social contexts, emanating from actors or constellations of actors, with the aim of solving or satisfying problems or needs better than is possible on the basis of established practices’ (Howaldt et al. 2010). This is intentionally a very general definition that allows for further differentiation and different attributions of the meaning of SI, including in the context of policy initiatives. It also includes for-profit and nonprofit initiatives. At the same time, it contains what we consider to be the

necessary core elements, i.e. a deliberate introduction of a new *social* practice, initiated by individuals or a group of actors, including so-called social entrepreneurs.

Policymakers seeking to actively promote transformations are now increasingly focusing on the fundamental importance of SIs understood in this way to influence the speed and shape of transformations. Two policy strands are coming together in this regard. First, policies have been in place for many years to support initiatives to change social practices that serve the common good in various ways. This involves mobilizing society’s creativity and initiative and—ideally—not only developing new practices that promote the common good but also anchoring them more broadly in society (Aderhold et al. 2014; Malakoff and Griffith 2016; Krlev et al. 2020; Koalition 2021). Second, a number of ambitious policy approaches have been established in many countries and at different political levels that aim to initiate or strengthen transformations by mobilizing and diffusing innovation (Chataway et al. 2017; Türk et al. 2018; Larrue 2021).

If changing social practices is necessary for transformations, if there are a variety of policy approaches to support SI in general, and if policies systematically want to promote transformations, one simple but critical question arises: what is the role of SI for an innovation policy that wants to promote sociotechnical transformations? This article cannot and will not develop a final answer to this question. Rather, it attempts to conceptualize the role of SI in transformation-oriented innovation policy, to identify policy options based on this, and to point out the difficulties and possible dangers of mobilizing SI for transformations.

Table 1. Morphological box for SI policy instruments.

Dimensions and characteristics		Illustrative policy instruments				
		RENN	GdI	Section 16a Road Act of Baden-Württemberg	Civic innovation platform	Social cooperatives
Directionality	Not directional					✓
	Broadly directional, towards a broad purpose/orientation	✓				✓
Primary policy field	Targeted directional, towards a specific goal		✓	✓	✓	
	Innovation policy		✓		✓	
Levers	Other policy field (e.g. regional or environmental policy)	✓		✓		✓
	Scaling-up	✓	✓	✓	✓	✓
Role of the state	Scaling-out	✓		✓		
	MOIP		✓		✓	
Incentive type	TIP	✓		✓		✓
	Regulation/deregulation			✓		
Role of the state	Resources (infrastructure/consulting)	✓	✓		✓	✓
	Resources (financial)		✓		✓	✓
	Awareness-raising measures or nudging	✓			✓	✓

This article is organized as follows. In the next section, we differentiate the various forms of SI and characterize related innovation processes and impact mechanisms. This conceptual introduction is important for understanding the relevance of SI for transformation-oriented policy. In [Section 3](#), we then relate the differentiations of SI to two forms of transformation-oriented innovation policy, which, for the purpose of this conceptualization, we present as simplified ideal type: mission-oriented innovation policy (MOIP) and transformative innovation policy (TIP). Each follows somewhat different rationalities. To summarize and illustrate our conceptualization, we end [Section 3](#) with a morphological box for SI policy initiatives, which serves to highlight the variety of combinations of different important features and their possible specifications. To illustrate the value of this conceptualization, we then introduce in some detail two examples of German policy interventions to support SI. They represent different configurations of policy characteristics. We complement the two detailed illustrations with three further sketches of German interventions to demonstrate the relevance of the specifications and show their meaning to characterize concrete cases. We then critically assess the potential and possible pitfalls regarding the role of SI in the context of transformation-oriented policy. A short concluding section summarizes the benefit of our conceptualization of SI-related policies in order to better understand and support SI in the context of transformation-oriented policies.

2. Conceptual differentiations as a basis for policy approaches

For understanding the possibilities, limits, and effects that targeted political support for SI has on transformations or dedicated missions, it is helpful to differentiate different intervention logics with respect to SI in general. In the context of this article, we define intervention logic as the basic assumptions concerning the need for the state to get involved in the development of the SI and the assumptions as to the

lever the state has when applying policy measures. A first fundamental differentiation here is, if a policy intends to support SI for specific, clearly defined policy goals, i.e. that it is directional or not (see ‘Directionality’ in [Table 1](#)). On the one hand, policy can prescribe the areas and goals in which it promotes SI. In this case, the policy owner would most likely be a ministry or agency that is responsible for a certain transformation or policy problem. On the other hand, anticipating manifold, *ex ante* often unforeseeable positive societal and economic effects, it can promote SI across the board and in a non-directed manner. In this case, the policy owner would be a unit that is specialized in promoting SI in general. An example of non-directed initiatives would be support for so-called social enterprises that were founded to serve a social purpose that hitherto is not adequately addressed by market-based profit-oriented enterprises or by the state ([Bureau of European Policy Advisers/ European Commission \(BEPA\) 2014](#); [Skiera and Sieker 2020](#); [Koalition 2021](#)). A further example would be the establishment of competence centres for SI, such as the Competence Centre Social Innovation Sachsen-Anhalt (a German Federal state), which contributes to networking and knowledge transfer in the context of regional economic development (See [Landesportal Sachsen-Anhalt \(2021\)](#)). In contrast, there are political approaches that specify defined societal goals. The thematic scope of these goals varies widely. In many countries, these goals increasingly refer to selected Sustainable Development Goals, but often remain relatively non-binding ([Wunder et al. 2019](#)). Some initiatives set more specific targets, narrow down the direction of the goals further and formulate concrete expectations of success. For example, the funding programme ‘Nachhaltiges Wirtschaften’ (doing business sustainably) of the German Ministry for Education and Research Bundesministerium für Bildung und Forschung (BMBF) promoted the development of new forms of business and management that support a transformation towards sustainability ([Walz and Wilhelm 2019](#)) (See also [Ludvig et al. \(2021\)](#) for more examples from the forestry sector). While many SIs in undirected programmes can serve

valuable transformations, these directed policy approaches are mobilized for specifically selected transformational policies. Such SI policies may originate from policy fields different from innovation policy—e.g. regional or environmental policies (see ‘Primary policy field’ in Table 1).

A further differentiation of SI policies can be made based on the incentive types employed (see ‘Incentive types’ in Table 1). With respect to the role of the state (Section 3), the distinction between initiating new SI initiatives and supporting existing initiatives is of particular interest. The first approach is based on the assumption that there is a high potential for initiative in society to bring about important changes, but that a numbers of systemic and individual obstacles impede the exploitation of this potential. A good example here would be start-up support for *new* social enterprises (see earlier) or our ‘Society of Ideas’ example in Box 1: ‘GdI—Competition for Social Innovations’. The second approach targets already existing SI initiatives and seeks to facilitate their operation, increase their performance and broaden their impact. There are many local and community social initiatives that strive for and implement sustainable innovations and behavioural changes on the ground appropriate to the respective contexts (Aderhold et al. 2014; Howaldt et al. 2019; Landesportal Sachsen-Anhalt 2021; Reith et al. 2021; Technische Universität Dortmund 2022). These initiatives usually emerge *ad hoc* without political support, but once started often receive political support through a variety of mechanisms. This support is very varied and contextual. It ranges from problem analysis and networking, financial support (e.g. tax breaks) to simplification of bureaucratic processes, the creation of political commitment, the provision of complementary assets such as technology, infrastructure and premises or support for the marketing or diffusion of the solutions emerging from social initiatives, etc. (cf. Aderhold et al. 2014; Rückert-John, Jaeger-Erben, and Schäfer 2014; Rückert-John et al. 2016).

The final differentiation, most relevant to our topic of transformation-oriented innovation policy, concerns the mechanisms by which individual SIs achieve system-wide effects, i.e. effects beyond the immediate local and systemic context of an initiative (see ‘Levers’ in Table 1). Here, we can distinguish between a broadening or duplication of existing approaches to other contexts on the one hand (*scaling-up*) and system-wide learning and adaptation based on learning experiences from specific local SIs (*scaling-out*) on the other hand (cf. also Moore, Riddell, and Vocisano 2015) (Our framing of SI dynamics focuses primarily on the concepts developed in the SI literature. There are many valid and valuable concepts on innovation diffusion and on expanding niches based on other strands of research such as the literature on technological innovation systems, strategic niche management or the multi-level perspective (for an overview, see, e.g. Kivimaa and Kern (2016), Ghosh et al. (2021)). However, these were developed predominantly for the context of market-driven, technological innovations. We show one possible link to Multi Level Perspective further later below the wider applicability and relevance for SIs deserve to be more carefully assessed in future research. However, this is outside the scope of this paper). SIs often start as initiatives of a group of actors, frequently at a local level. Nevertheless, internet-based, geographically distributed actor constellations are becoming increasingly important, not least under the influence of the

COVID-19 pandemic (Scheidgen et al. 2021). However, these initiatives only develop their transformative effect on entire societies by diffusing more broadly. Depending on the initiative, this can be an extension of the reach of a particular SI or the diffusion of an SI via its multiplication in different places.

The starting assumption for political support of system-wide diffusion and effects of SI is not only their social desirability but also the recognition that expansion of SIs or their duplication necessitates greater effort to mobilize new activists, financial and infrastructural resources, and higher transaction costs. Different initiatives have their own specific obstacles when it comes to broaden their appeal and reach (Westley et al. 2014). It has become increasingly clear in recent years that the multiplication of local SIs to other contexts is usually very demanding and requires system-specific adaptations.

As for the first mechanism of broadening SIs, multiplication to other places (*scaling-up*), policies supporting diffusion must be flexible since the contextual conditions of the initial SI and the places where they may be taken up differ. For this reason, experimental approaches and inter-local learning are becoming more numerous (Wittmayer et al. 2020), including the provision of inter-local learning that reflects local differences (see Box 2, Regional Network Centres for Sustainability Strategies (RENN)). Other instruments for the diffusion of SI include awareness—and nudging—campaigns, government demonstration initiatives, public purchasing, or demand subsidies for products of SI for profit.

The second mechanism for the system-wide impact of SI potentially unfolds through learning at the system level—*scaling-out*. This entails the adjustments of the framework conditions for behavioural changes in the overall system developed from individual examples or from the networking of individual initiatives of SI. As a rule, these processes of *scaling-out* must be proactively designed or supported. This can be done by the initiators of the original SI, who then become institutional entrepreneurs (Westley et al. 2014). It may also be achieved by drawing (policy) lessons from local experiments for the system level or by multi-local changes exerting pressure for change on those. In the language of the dominant conception of transformations in transformation research (multi-level perspective), an SI initially applied in a small, often local niche thus over time contributes to change at the level of the regime. Those regimes are defined as a coherent, highly inter-related and stable structure at the meso-level characterized by established products and technologies, stocks of knowledge, user practices, expectations, norms, regulations, etc. (Geels and Schot 2007; Markard and Truffer 2008; Geels 2011; Geels et al. 2019). The power of SI to contribute to regime change is what makes them important levers for transformational policies. In the process, local experiments become a laboratory for system-wide adjustments (Wittmayer et al. 2020). Empirical analyses have shown that providing experimental spaces and niches where SIs are facilitated, tested, evaluated, and widely communicated is a key lever for unfolding effects on whole systems. They demonstrate how new practices serve transformational goals and help broaden adoption (Wunder et al. 2019). Our RENN example (Box 2) illustrates how the state contributes to collective learning and the transfer of lessons learned from local to system levels through SI networking combined with communication measures such as offering an award, highlighting good practice.

Box 1. Gdl (German abbreviation for ‘Society of Ideas’)—competition for SIs.

The ‘Society of Ideas’ is a BMBF funding measure (funding period: 2020–6 (See Bundesregierung 2021b; Bundesministerium für Bildung und Forschung (BMBF) 2020, Hassel et al. (2019) and Bundesministerium für Bildung und Forschung (BMBF) 2022 Website of the funding measure (<https://www.gesellschaft-der-ideen.de/>, last accessed 27 January 2022)) and part of the ‘Departmental Concept on Social Innovation’ (Bundesregierung 2021b). It is the first funding measure in Germany that is specifically and exclusively focused on SI. Its goal is to find solutions to specific social challenges, namely, exchanges between the virtual and the real world, between cities and rural areas, or between young and old. In terms of the intervention logic, this is therefore a directed policy approach.

The funding measure begins with a very easily accessible competition of ideas (award for a total of thirteen selected projects: €12,000 each) that gradually leads to a testing (ten projects, each €200,000 over 2 years) and implementation phase for concrete projects (five projects with planned follow-up funding for a duration of 3 years, for which the funding amount has not yet been defined). A wide range of civil society actors can participate in the competition of ideas, for example not only non-governmental organizations such as associations, initiatives, and cultural and educational institutions but also companies, especially microenterprises and freelancers and even natural (individual) persons (Bundesministerium für Bildung und Forschung (BMBF) 2020). Special attention is devoted to the matching of suitable partners, including the twinning of scientific partners with SI initiators. This open design supports the initiation of new SI.

The focus of the competition is explicitly on civil society actors and their project ideas because they are considered to be closest to the societal challenges. In addition, the criterion of ‘significance for society’ plays a special role in the selection of eligible ideas and is evaluated by citizens in a participatory online process. The ‘trial phase’ of SI is understood as an ‘experimental space’ that serves, among other things, to bring innovators and users together.

With regard to the design of the interaction with technology, the topic area ‘SI for the exchange between the virtual and real world’ is interesting. Digitization plays an important role here. It offers opportunities as an ‘enabling technology’. At the same time, it requires SI actors to develop competencies and ways of handling digital technologies in a way that reduces their risks, e.g. to privacy and data security. For this reason, the funding measure promotes, e.g. SI for the integration of people who feel disconnected from the digital world.

Classification: Gdl is *targeted directional*, as it favours certain topics and directs the focus of innovation efforts to selected societal challenges. The funding measure aims to specifically initiate new ideas, involve new actors in innovation activities and stimulate new innovation partnerships. In both respects, its approach can therefore be classified as *MOIP*, even though there is *no explicit reference* to the missions of the German High-Tech Strategy. Its core is *scaling-up*, and as for incentives and *resources*, it provides infrastructure/consulting as well as financial support.

3. SI and transformative policies

The aforementioned discussion clearly demonstrates that the unfolding of SI per se as well as the broadening of its impact to the systemic level require, and in many cases, already experiences, political support. In order to understand how SI can be mobilized for transformation-oriented innovation policy, this transformational policy itself must be differentiated in terms of its aspiration and thrust. The following differentiation is well established in innovation policy discourse and, for the sake of conceptual argumentation, is simplified and stylized. While both policies are directional, we highlight the different intervention logics with regard to the role of the state in helping to provide this directionality.

The first approach is TIP, which embraces and amplifies socially desirable transformational dynamics and thus supports already ongoing directionality of innovation activities (Steward 2012; Chataway et al. 2017; Schot and Steinmueller 2018; Diercks, Larsen, and Steward 2019). It identifies SIs in their niche, creates space for bottom-up dynamics, and seeks to improve the conditions for further development via scaling-up or via system-wide learning and adaptation (scaling-out). Politics must develop a radar for initiatives and create and apply a normative filter to determine which approaches are to be supported, i.e. which contribute to socially desired transformations.

By contrast, the second approach—i.e. MOIP (European Commission, Directorate-General for Research and Innovation, and Mazzucato 2018; Larrue 2021)—defines very specific goals (missions) in the political process, which then translate into the directionality of innovations that are supposed to support the mission. In MOIP, SIs must be specifically

initiated or selected to contribute as comprehensively as possible to achieving the mission objectives. MOIP goes beyond the autonomous emergence of SIs and deliberately asks how already ongoing behavioural change could be mobilized or what new social practices could be initiated to achieve mission goals. However, in the mission approaches of the 2010s, the initiation and mobilization of SI as an explicit, conceptual element of MOIP does not (yet) play a major role. For example, Mazzucato does not explicitly address SI as a potential lever in her conceptual approach to MOIP (Mazzucato 2018). In a broad overview of MOIP approaches in various Organization for Economic Co-operation and Development countries, the term ‘SI’ is mentioned only twice (Larrue 2021). While the German High-Tech Strategy generally ascribes a high importance to SI for transformation (Bundesministerium für Bildung und Forschung (BMBF) 2020), they are not an integral part of the mission strategy in any of the twelve missions (Hassel et al. 2019).

In both approaches, the challenge is to unfold the effectiveness of SI for transformation at the desired system level. The distinction between the policy approaches, which is often not very explicit in policy practice and discourse, is conceptually important, especially with regard to the role of the state and the question of how policymakers and politicians perceive the broader value of SI. Put simply, a MOIP clearly assigns SI an instrumental character. SIs, and in extreme cases their initiation, can be an explicit means to achieve politically defined goals. While TIP is also selective, choosing which emergent social dynamics to support remains more strongly within the logic of bottom-up emergence rather than initiating SI for a specific purpose.

Box 2. 'RENN—Regional Network Centres for Sustainability Strategies'.

(Funding measure of the Federal Chancellery implemented by the German Council for Sustainable Development, funding period since 2016, currently second funding phase 2022–4 (RENN—Regionale Netzstellen Nachhaltigkeitsstrategien 2022)).

RENN is part of the 'Gemeinschaftswerk Nachhaltigkeit' (Joint Deed Sustainability), a component of the German Sustainability Strategy (Bundesregierung 2021a), which aims to strengthen the commitment of all social actors, in particular citizens. The aim of RENN is to promote the implementation of sustainable development across the whole of society. Since the seventeen sustainability goals of the 2030 Agenda (United Nations (UN) 2015) and their implementation in the German Sustainability Strategy are very comprehensive, the programme is nevertheless thematically very broad. RENN is not limited to SI, but is designed to be SI-friendly. For example, target groups for the network activities are broad (including initiatives, associations, churches, trade unions, municipalities, and companies). The network builds on existing regional structures and initiatives, so in terms of intervention logic, it tends to support existing initiatives.

As part of RENN's activities, the 'Project Sustainability' competition regularly honours initiatives and projects that contribute to sustainability. With this seal of quality, they gain visibility and charisma as role models for imitation. In this way, RENN contributes to 'scaling-up'. The special category 'Transformation Project' highlights additional projects that have a particularly high potential to change society in the direction of sustainability, have a special novelty character, and are regionally transferable. The four prizes awarded in this category are each endowed with €10,000. Some of the 2020 transformation projects contain clear elements of SI, for example, by concretizing principles of the common good economy or promoting more cycling (inSPEYERed e.V. 2022) or by showing ways to avoid single-use plastic (plastikfreie Stadt Rostock 2021). The dissemination activities, especially with regard to the transformation projects, aim—at least in terms of their claim—at system-wide learning and thus at 'scaling-out'.

RENN promotes the experimental approach, which is also reflected in the motto 'just do it'. The type of activities of the RENN network is very heterogeneous. To a small extent, suppliers of new technologies are also involved with their products (e.g. thermal insulation systems or packaging materials), but they do not seem to fill the role of enablers for SIs.

Classification: RENN is broadly *directional*, as it selects only those initiatives that are geared towards sustainability and it is *not* prescribing *concrete areas* or sustainability goals. The core of RENN is *scaling-up* with some additional ambitions for *scaling-out*. It seeks to multiply emergent, particularly effective approaches across the country and derive system-wide lessons learned. As for incentive types employed, it relies on offering *resources* and provides, e.g. *infrastructure*, information and working materials and most importantly *networking opportunities*. Through its special prize, it also creates broader *awareness*. Overall, by supporting the already existing initiatives in broad areas of sustainability, RENN can largely be assigned to the logic of a *TIP*.

In conclusion, we can distinguish the role of SIs for these two transformational policy approaches. SI can be

1. A *reaction* to transformation dynamics or political mission ambition (i.e. more or less self-motivated adaptation of practices, but often as a necessary condition for transformation). This dynamic can unfold and be promoted in both policy approaches;
2. *Drivers*, i.e. origin of a transformation dynamic, which is then reinforced by policy, if necessary. This mechanism is typical for TIP, but can also be mobilized for smart mission policy;
3. *Explicit levers* for desired transformations; here, SIs are used specifically by policymakers. This is compatible with MOIP.

Table 1 finally summarizes the distinctions introduced in Sections 2 and 3 and depicts the critical dimensions of our concept in a morphological box (see the left column 'Dimensions and characteristics'). We have chosen this mode of illustrating the concept to highlight the multitude of possible combinations of different characteristics. Even in our very simple framework, these combinations are numerous. The morphological box can help analysts to understand the role of policy as well as policy-making institutions to reflect upon the value and form of policy support for SI in the context of transformational policy.

To illustrate the features and specifications of SI policy tools and show the use and benefit of the morphological box more concretely, we choose two exemplary policy instruments

representing rather different poles. These two examples—GdI and RENN—are presented more in depth in Boxes 1 and 2.

In addition, we very briefly sketch out three further policy examples to test the relevance of our conceptual differentiations, show their meaning in concrete cases, and illustrate the variety of policy intervention mechanisms:

1. *Special use permits for car-sharing* (KEA Klimaschutz- und Energieagentur Baden-Württemberg GmbH (KEA) 2022): in 2019, a new paragraph (section 16a) was introduced into the Road Act of the German Federal State of Baden-Württemberg ('Landesstraßengesetz'). It allows the dedication of public space along roads to the exclusive use by car-sharing companies under specific conditions and procedures. Municipalities can use this clause to foster station-based car-sharing and facilitate the provision of stations in proximity and easy reach for the car-sharing users. Car-sharing is considered a SI in the literature (see e.g. Schartinger et al. 2020).

Classification: This regulatory measure is *targeted directional*. Without referring to (social) innovation policy, it emanates from the realm of transport policy. By changing the 'rules of the game', it uses the leverage of *scaling-out* on top of scaling-up activities. Due to its directional orientation and its focus on reinforcing already existing activities, we would rather classify it as a *TIP* approach. It is characterized by using *regulation* as an incentive mechanism.

2. The *civic innovation platform* of the Federal Ministry of Labor and Social Affairs Bundesministerium für Arbeit und Soziales (BMAS) (Bundesministerium für Arbeit und Soziales 2022) aims to support the collaborative and creative implementation of Artificial Intelligence (AI)-based projects in a versatile and long-term manner.

Classification: Being one of the measures of the German Artificial Intelligence Strategy (Bundesregierung 2020), the programme can be classified as *targeted directional* towards an explicit overarching set of goals, which are *embedded* in the German High-Tech Strategy of the Federal Government (Bundesregierung 2018) and hence in the innovation policy field. Its approach is *scaling-up*, as many smaller examples are promoted. As for incentives, it provides resources in terms of *consulting* and *financial resources*. Through its special prize, it also creates broader *awareness*. Overall, by promoting something new with the clear mission to develop and use AI ‘responsibly and for the common good’, it can largely be assigned to *MOIP*.

3. The initiative *Social Cooperatives* was launched by the Bavarian State Ministry for Family, Labour and Social Affairs (Bayerisches Staatsministerium für Familie, Arbeit und Soziales 2022) and is meant to support the development of a sustainable society. Within social cooperatives, social concerns should be solved collectively, especially if larger investments or operating costs are implied.

Classification: The programme’s underlying goal of a ‘sustainable society’ is very broadly defined, even more so as there is no explicit link to the German Sustainability Strategy. Therefore, the social cooperatives initiative is difficult to place with respect to directionality: *non-directionality* can be argued just as well as *directionality in the (very) broad sense*. The initiative emanates from the Department of family, labour, and social affairs and thus not primarily the realm of innovation policy. The approach taken is *scaling-up* by replication of behavioural patterns in different places. In terms of incentives, both *financial support* for exemplary projects and *non-material support* (i.e. consulting) are provided. Through specific support of role models and their public presentation, the *awareness* of the society towards such forms of collaboration is raised. Overall, by supporting already existing initiatives, the programme can largely be assigned to the logic of a *TIP*.

4. Promoting SI politically—a critical appraisal

What follows from the differentiation of policy approaches to promote SI for its mobilization for transformations? Given the critical importance of adaptations of behaviour and social practices to transformations, it is reasonable to turn to SIs as a policy lever and to create and improve the conditions for those SIs that are conducive to desired transformations. SIs are often small-scale experiments that test and demonstrate the feasibility of new social practices. Social mobilization and recursive improvement via trial and error ideally clarify ideas about transformation pathways and their social and infrastructural conditions. By successively incorporating learning

experiences, SIs can contribute to the step-wise improvement of political mission definitions. SIs are then a possible mechanism not only for achieving mission goals or transformation ambitions but also for shaping them in an evolutionary way (similar to Ludvig et al. 2021).

However, there are a number of central challenges potentially standing in the way of politically mobilizing and supporting SI for desired transformations. If those challenges are ignored in the political discourse, these can lead to major implementation problems and even have a counterproductive effect on the transformation itself.

The most fundamental point concerns the role of SI as a lever for policy-making. Some critics see government support to SI in some fields, particularly in the context of social policy, as a justification for the retreat of the state (Moulaert et al. 2017; Schartinger et al. 2017). In this view, promoting social initiatives that are not—or not primarily—profit-oriented is interpreted as a surrogate for the state’s comprehensive provision of services for the public, which, moreover, in the case of the promotion of social entrepreneurs, often fails to meet the requirement of systemic transformation (Lee et al. 2021). In the context of the pan-European energy transition, some critics interpret the mobilization of SI for the ‘Energy Union’ as a kind of repair store and a tool to fill the voids of the growth-oriented neoliberal model (Fougère, Segercrantz, and Secek 2017; Schartinger et al. 2017; Joy, Shields, and Cheng 2019; Wittmayer et al. 2019; Wittmann et al. 2021). One example for the latter is the analysis of Joy, Shields, and Cheng (2019) of ‘Social Innovation Labs’ in Canada, which are interpreted as solving societal problems that, in the interpretation of the authors, are a result of the neoliberal economic model and for which the state in this model fails to find solutions.

A complementary critique revolves around the nature of SIs and questions whether and to what extent SI can be understood as an object of policy design at all. In particular, Kropp (2017) pointed out that any well-intended support is an intrusion into the self-conception and autonomy of the SI agents, their networks, and their intentionality. The public support changes the expectations with respect to the impact of the SI, and it places SIs in a larger context and also under new pressure. In contrast to technological innovations, SIs in this view are not artefacts to be diffused via suitable measures, but they are self-determined new social practices that are idiosyncratic and often defy or override existing power and market structures (Kropp 2017) (This sceptical view of Kropp refers less to SI by social enterprises, which are less characterized by collective, interactive approaches and usually have professional initiators and thus policy addressees).

Moreover, there is no single policy addressee or no singular person who dominates the control of innovation and who alone can be activated (Howaldt and Schwarz 2017). SI as a lever for policy rather means a broadening of addressees of policy, especially of innovation policy, for example in the form of new, diverse, often very little formalized alliances of citizens, entrepreneurial individuals (‘social entrepreneurs’), social institutions, scientific institutions, and diverse different actors of the public sector (Skiera and Sieker 2020; Wittmayer et al. 2020). This not only complicates the design of instruments and the addressing of the target group but also means that political intervention in SI makes political actors themselves ‘part of the social arrangement that configures social practices’ (Howaldt and Schwarz 2017).

Another fundamental challenge in the political attempt to make SIs meaningful at the system level is the potential transfer of localized tensions of the initial SI to the systems level where they are potentially met with resistance that is more robust. SIs often not only fill the gaps of market logic but also are often initiated precisely against the dominant market logic. Social initiatives towards a culture of sharing and repairing and towards an ethos of less rather than more, committed to sustainability, ultimately reduce private demand for (i.e. consumer) goods. As individual local initiatives, they are successful in many cases, for example, when still edible food that is no longer commercially marketed because of minor blemishes is distributed for free or very cheaply. As a system-wide SI, they pose challenges for sectors of the economy affected by the decline in demand. System-level policy support that goes beyond small-scale and symbolic assistance must address this fundamental challenge and trade-off.

In addition, the interplay between SI and technological innovations remains a largely unexplored field. The potential role of technology as an enabler of SI has already been mentioned. One example is digital technologies that support the implementation, networking, and scaling-up of an SI. However, SIs are also sometimes reduced to being an instrument to support the absorption and dissemination of certain technological innovations, very often with a commercial interest (Morrar and Arman 2017). Furthermore, it is conceivable that SIs narrow the broad spectrum of possible impacts to a specific corridor. If specifically triggered, they could then serve to favour more socially desirable developments or to limit the risks of new technologies. The latter is one of the stated goals of the ‘Society of Ideas’ funding measure (Box 1).

Finally, this discussion on policy challenges raises the very fundamental question of whether SIs are sufficiently understood for policy practice in terms of how they are initiated and develop over time and thus also in terms of the conditions for their broad, system-wide effects on transformations. Specifically, when SIs are politically initiated or supported, it is crucial to subject them to *ex ante* and *ex post* impact assessment, similar to what innovation policy has long been doing for technical innovations with technology assessment (Walz et al. 2019; Mildenerberger, Schimpf, and Streicher 2020; Bogner 2021). Activities of this type have recently been intensified under a funding programme of the BMBF (Bundesministerium für Bildung und Forschung (BMBF) 2021).

However, the holistic impact assessment of SI and of the policies that support them is still characterized by a high degree of conceptual and operational uncertainties. Often, the definition of what SI actually is, and why and how it should be supported, is still unclear and controversial (Mason et al. 2015). This situation is not trivial for the legitimization of state action, especially when the impact measurement or presumption of impact of SI on desired transformations, *ex ante*, remains relatively undetermined. Very little theoretical and conceptual consideration of the systemic transformative impact of SI exists (Lee et al. 2021). This argument is often made in relation to political support for social enterprises, especially in the early stages of venture funding (Lee et al. 2021). But it is also generally true that measuring the impact of SIs and their contribution to transformations or missions is methodologically challenging (Baturina and Bežovan 2015; Ludvig et al. 2021).

Against this background, there are first fruitful approaches in this direction, for example the work on indicators for SI (see, e.g. Krlev and Terstriep 2022, the impact assessment of Walz et al. 2019, or the approach of Wunder et al. 2019 or Bienge et al. 2019), which determine the contribution of different SIs to sustainability transformation or resource efficiency. For example, Wunder et al. (2019) develop a framework to measure (1) the sustainability effects of ‘civil society initiatives’ and (2) their transformational potential. As for the sustainability effects, they assess the contribution of an initiative to the Sustainable Development Goals of the United Nation. As for the transformational impact, they develop a concept based on the way in which broader discourses are initiated and structures for behavioural change are put in place, and they define a set of assessment criteria in terms of organizational capabilities of the initiatives and the potential for scalability. These are promising approaches that could be used for the assessment of MOIP or TIP, in particular, if MOIP or TIP claims to deliberately support SI.

5. Conclusions

Changing social practices, adapting individual behaviour and initiatives developed from the breadth of civil society, and working towards such changes within the framework of SI are essential for the transformations we need and seek as societies. Unquestionably, countless SIs are important drivers and catalysts for the transformations ahead. Fundamentally, it is important to consider SI as part of shaping the transformation needs of various social groups and thus as promoting democracy and legitimacy. The greatest strength of SI is the initiative of citizens.

In this article, we have tried to differentiate SI and link it to different logics of intervention for transformation-oriented policies and to develop a first conceptualization of SI policy measures. It turns out that there are different logics based on which the state can and should support such initiatives that are conducive to socially desirable transformations. The intervention rationale rests on the observation that, in general, the transformative potential of SI is often not fulfilled and the potential willingness and initiative of citizens to change their behaviour are not being exploited broadly enough. Often, SIs encounter obstacles related to resources, infrastructure, regulation, or broader visibility. Removing such obstacles can and should be a political task if the impact of SI is conducive to the desired transformations.

Transformation-oriented policy is then interested not only in the success of individual SIs but also in their system-wide impact. This is where the real challenge lies. As outlined earlier, system-wide impact can happen through intelligent support for diffusion and multiplication of approaches or through experiential learning from local initiatives at the system level. The point here is to identify the respective success factors, incorporate them into a learning system, and thus bring them into the field.

It follows from the various differentiations in this article that functionally appropriate policy interventions and styles must be developed in each case. Policy must differentiate between the various types of SIs and their different significance for missions and transformations. To decide whether

and how policy intervenes, *ex ante* and *ex post* analyses of the transformational effects of SI and the policies that act on them should be developed and applied. It remains crucial, however, that SIs themselves are not being misunderstood as simple policy instruments or as ‘repair stores’ for missed state responsibilities. SIs are complex, self-motivated changes in behaviour and actor constellations, usually with strong normative content. The state must handle the valuable resource of citizens’ initiatives and their willingness to change behaviour with care. In addition, any intervention in SI must take into account the dual role of public actors, who are often participants in SI and, at the same time, its potential supporters. An overly exposed role of the state or the attempt to simply instrumentalize emergent SI runs the risk of weakening the normative, self-initiating character of SI and thus its mobilizing effect. This danger appears to be smaller in the case of the ‘targeted initiation’ of SI in the context of missions than in the case of political support for already emergent SI through transformative politics. Finally, SIs are by definition always complex social experiments, and the state would do well to provide space and support for such ventures without counteracting the dynamics of social mobilization through well-meaning interventions. It is crucial to find the right balance here and to accompany and promote the diversity of SI politically in such a way that they can constructively unfold their transformation potential. This is the reason why we see this article as a starting point for a systematic stock-taking and analysis of SI policies. The morphological box and its differentiation may serve to characterize policies and start a joint learning process in terms of the benefits, mechanisms, and potential pitfalls of state intervention.

Conflict of interest statement. None declared.

Funding

This work was supported by the German Federal Environment Agency within the framework of the Environmental Research Plan (3717 14 101 0), as parts of the content were developed in the project ‘Further development of German environmental innovation policy’.

Data availability

The data used in this article is freely available.

References

- Aderhold, J. et al. (2014) ‘Soziale Innovationen und förderliche Governance-Formen im gesellschaftlichen Transformationsprozess’, Im Auftrag des Umweltbundesamtes (Forschungskennzahl (UFO-PLAN) 3712 17 100). Berlin.
- Baturina, D., and Bežovan, G. (2015) Social Innovation Impact-Review of Research: Seventh Framework Programme (Grant Agreement 613034). Brussels.
- Bayerisches Staatsministerium für Familie, Arbeit und Soziales. (2022) ‘Sozialgenossenschaften’, <https://www.stmas.bayern.de/soziale-innovationen/sozialgenossenschaften/index.php>, accessed 8 Apr. 2022.
- Bienge, K. et al. (2019) ‘Ecological and Socio-technical Assessment of Collaborative Consumption: Resource Efficiency Potentials’, *NachhaltigkeitsManagementForum*, 27: 139–49.
- Bogner, A. (2021) ‘Politisierung, Demokratisierung, Pragmatisierung: Paradigmen der Technikfolgenabschätzung im Wandel der Zeit’, in S. Bösch, A. Grunwald, B.-J. Krings, et al. (eds) *Technikfolgenabschätzung: Handbuch für Wissenschaft und Praxis*, pp. 43–58. Baden-Baden: Nomos.
- Bundesministerium für Arbeit und Soziales. (2022) ‘Civic Innovation Platform’, <https://www.civic-innovation.de/start>, accessed 8 Apr. 2022.
- Bundesministerium für Bildung und Forschung (BMBF). (2020) ‘Richtlinie “Gesellschaft der Ideen – Wettbewerb für Soziale Innovationen”: Förderung der Entwicklung von Sozialen Innovationen’.
- Bundesministerium für Bildung und Forschung (BMBF). (2021) ‘Richtlinie zur Förderung von Forschungsvorhaben im Rahmen von Insight – interdisziplinäre Perspektiven des gesellschaftlichen und technologischen Wandels’.
- Bundesministerium für Bildung und Forschung (BMBF). (2022) ‘Gesellschaft der Ideen – Wettbewerb für Soziale Innovationen: Internetseite zur Fördermaßnahme’, https://www.gesellschaft-der-ideen.de/de/home/home_node.html, accessed 27 Jan. 2022.
- Bundesregierung. (2018) ‘Forschung und Innovation für die Menschen: Die Hightech-Strategie 2025’, Berlin: BMBF.
- Bundesregierung. (2020) ‘Strategie Künstliche Intelligenz der Bundesregierung’, Berlin: BMBF.
- Bundesregierung. (2021a) ‘Deutsche Nachhaltigkeitsstrategie: Weiterentwicklung 2021’, Berlin: BMBF.
- Bundesregierung. (2021b) ‘Ressortkonzept zu Sozialen Innovationen’, Berlin: BMBF.
- Bureau of European Policy Advisers (BEPA) (2014) ‘Social Innovation: A Decade of Changes’, Brussels: European Commission.
- Chataway, J. et al. (2017) ‘Developing and Enacting Transformative Innovation Policy: A Comparative Study’, 1–28.
- Diercks, G., Larsen, H., and Steward, F. (2019) ‘Transformative Innovation Policy: Addressing Variety in an Emerging Policy Paradigm’, *Research Policy*, 48: 880–94.
- European Commission, Directorate-General for Research and Innovation, and Mazzucato, M. (2018) ‘Mission-Oriented Research & Innovation in the European Union – A Problem-Solving Approach to Fuel Innovation-led Growth’, Brussels: Publications Office.
- Fougère, M., Segercrantz, B., and Seeck, H. (2017) ‘A Critical Reading of the European Union’s Social Innovation Policy Discourse: (Re)legitimizing Neoliberalism’, *Organization*, 24: 819–43.
- Geels, F. W. (2011) ‘The Multi-level Perspective on Sustainability Transitions: Responses to Seven Criticisms’, *Environmental Innovation and Societal Transitions*, 1: 24–40.
- Geels, F. W. et al. (2019) *Sustainability Transitions: Policy and Practice*. Copenhagen: European Environment Agency.
- Geels, F. W., and Schot, J. (2007) ‘Typology of Sociotechnical Transition Pathways’, *Research Policy*, 36: 399–417.
- Ghosh, B. et al. (2021) ‘Transformative Outcomes: Assessing and Reorienting Experimentation with Transformative Innovation Policy’, *Science & Public Policy*, 48: 739–56.
- Hassel, A. et al. (2019) ‘Soziale Innovationen: Ein Impulspapier Für Das Hightech-Forum’.
- Hoppe, T., and Vries, G. D. (2018) ‘Social Innovation and the Energy Transition’, *Sustainability*, 11: 141–54.
- Howaldt, J. et al. (2010) ‘Social Innovation: Concepts, Research Fields and International Trends’, IMA/ZLW.
- Howaldt, J. et al. eds (2019) *Atlas of Social Innovation: 2nd Volume: A World of New Practices*. Munich: Oekom.
- Howaldt, J., and Schwarz, M. (2017) ‘Die Mechanismen transformativen Wandels erfassen: Plädoyer für ein praxistheoretisches Konzept sozialer Innovationen’, *GAIA – Ecological Perspectives for Science and Society*, 26: 239–44.
- inSPEYERed e.V. (2022) ‘Demokratie in Speyer nachhaltig leben – inSPEYERed e.V.’, <https://inspeyered.de/>, accessed 31 Jan. 2022.
- Joy, M., Shields, J., and Cheng, S. M. (2019) ‘Social Innovation Labs: A Neoliberal Austerity Driven Process or Democratic Intervention?’, *Alternate Routes: A Journal of Critical Social Research*, 30: 35–54.

- KEA Klimaschutz- und Energieagentur Baden-Württemberg GmbH (KEA). (2022) 'Carsharing im öffentlichen Raum: Handlungsmöglichkeiten für Kommunen in Baden-Württemberg', Stuttgart: Ministerium für Verkehr Baden-Württemberg.
- Kivimaa, P., and Kern, F. (2016) 'Creative Destruction or Mere Niche Support? Innovation Policy Mixes for Sustainability Transitions', *Research Policy*, 50: 205–17.
- Koalition. (2021) 'Mehr Fortschritt wagen. Bündnis für Freiheit, Gerechtigkeit und Nachhaltigkeit', Koalitionsvertrag 2021-2025 zwischen der Sozialdemokratischen Partei Deutschlands (SPD), BÜNDNIS 90/DIE GRÜNEN und den Freien Demokraten (FDP).
- Krlev, G. et al. (2020) 'The Policies of Social Innovation: A Cross-national Analysis', *Nonprofit and Voluntary Sector Quarterly*, 49: 457–78.
- Krlev, G., and Terstriep, J. (2022) 'Pinning It Down? Measuring Innovation for Sustainability Transitions', *Environmental Innovation and Societal Transitions*, 45: 270–88.
- Kropp, C. (2017) 'Forschung zu sozialen Innovationen am Scheideweg', *GAIA - Ecological Perspectives for Science and Society*, 26: 309–12.
- Landesportal Sachsen-Anhalt. (2021) 'Kompetenzzentrum Soziale Innovation – Sachsen-Anhalt', <https://soziale-innovation.sachsen-anhalt.de/>, accessed 26 Jan. 2022.
- Larrue, P. (2021) *The Design and Implementation of Mission-oriented Innovation Policies: A New Systemic Policy Approach to Address Societal Challenges*. Paris: OECD Publishing.
- Lee, E. K. M. et al. (2021) 'Social Impact Measurement in Incremental Social Innovation', *Journal of Social Entrepreneurship*, 12: 69–86.
- Ludvig, A. et al. (2021) 'Policy Impacts on Social Innovation in Forestry and Back: Institutional Change as a Driver and Outcome', *Forest Policy and Economics*, 122: 1–7.
- Malakoff, L., and Griffith, J. (2016) *Scaling Programs and Growing Impact with the Social Innovation Fund*, Fairfax, VA: ICF International.
- Markard, J., and Truffer, B. (2008) 'Technological Innovation Systems and the Multi-level Perspective: Towards an Integrated Framework', *Research Policy*, 37: 596–615.
- Mason, C. et al. (2015) 'Social Innovation for the Promotion of Health Equity', *Health Promotion International*, 30: 116–25.
- Mazzucato, M. (2018) *Mission-oriented Research & Innovation in the European Union*, Brussels: European Commission.
- Mildenberger, G., Schimpf, G., and Streicher, J. (2020) 'Social Innovation Assessment? Reflections on the Impacts of Social Innovation on Society – Outcomes of a Systematic Literature Review', *European Public & Social Innovation Review*, 5: 1–13.
- Moore, M.-L., Riddell, D., and Vocisano, S. (2015) 'Scaling Out, Scaling Up, Scaling Deep: Strategies of Non-Profits in Advancing Systemic Social Innovation', *Journal of Corporate Citizenship*, 58: 67–84.
- Morraz, R., and Arman, H. (2017) 'The Fourth Industrial Revolution (Industry 4.0): A Social Innovation Perspective', *Technology Innovation Management Review*, 7: 12–20.
- Moulaert, F. et al. (2017) *Social Innovation as a Trigger for Transformations—the Role of Research*. Luxembourg: Publications Office of the European Union.
- plastikfreie Stadt Rostock. (2021) 'Plastik sparen im Unternehmen', plastikfreiestadt.org, <https://plastikfreiestadt.org/>, accessed 31 Jan. 2022.
- Reith, V. et al. (2021) 'Soziale Innovation als Treiber städtischer Energiewenden: Energiewende, Transformation, soziale Innovationen, Stadtlabore, Bürgerbeteiligung', *Transforming cities: Urbane Systeme im Wandel: das technisch-wissenschaftliche Fachmagazin*, 2: 44–7.
- Rückert-John, J. et al. (2016) 'Nachhaltiger Konsum durch soziale Innovationen: Konzepte und Praxis', Dessau-Roßlau.
- Rückert-John, J., Jaeger-Erben, M., and Schäfer, M. (2014) *Soziale Innovationen im Aufwind: Ein Leitfaden zur Förderung sozialer Innovationen für nachhaltigen Konsum*, Dessau-Roßlau: Umweltbundesamt.
- Schartinger, D. et al. (2017) 'SI-DRIVE: Social Innovation: Driving Force of Social Change: Social Innovation in Environment and Climate Change: Case Study Results', Policy Field Environment and Climate Change (D6.3).
- Schartinger, D. et al. (2020) 'Green Social Innovation – Towards a Typology', *European Planning Studies*, 28: 1026–45.
- Scheidgen, K. et al. (2021) 'Crises and Entrepreneurial Opportunities: Digital Social Innovation in Response to Physical Distancing', *Journal of Business Venturing Insights*, 15: 1–9.
- Schot, J., and Steinmueller, W. E. (2018) 'Three Frames for Innovation Policy: R&D, Systems of Innovation and Transformative Change', *Research Policy*, 47: 1554–67.
- Skiera, C., and Sieker, F. (2020) 'Soziale Innovationen und ihr Beitrag zum Innovationssystem: Förderansätze und Handlungsbedarf in Deutschland', Potsdam-Babelsberg.
- Steward, F. (2012) 'Transformative Innovation Policy to Meet the Challenge of Climate Change: Sociotechnical Networks Aligned with Consumption and End-use as New Transition Arenas for a Low-carbon Society or Green Economy', *Technology Analysis & Strategic Management*, 24: 331–43.
- Technische Universität Dortmund. (2022) 'Map of Social Innovation', <https://www.socialinnovationatlas.net/map>, accessed 28 Jan. 2022.
- Türk, A. et al. (2018) 'Mission-oriented Research and Innovation: Inventory and Characterisation of Initiatives', *Final Report*. Brussels.
- United Nations (UN). (2015) 'Transforming Our World: The 2030 Agenda for Sustainable Development', <https://sdgs.un.org/2030agenda>, accessed 12 Jan. 2021.
- Walz, R. et al. (2019) 'Wider Economic and Social Implications of Sustainable Economy Approaches: Some Insights from a Scenario Exercise', *GAIA – Ecological Perspectives for Science and Society*, 28: 190–7.
- Walz, R., and Wilhelm, R. (2019) 'Social-ecological Research for the Transformation to a Sustainable Economy: Opening up New Perspectives for Change', *GAIA – Ecological Perspectives for Science and Society*, 28: 180–3.
- Westley, F. et al. (2014) 'Five Configurations for Scaling up Social Innovation', *The Journal of Applied Behavioral Science*, 50: 234–60.
- Wittmann, F. et al. (2021) 'Governing Varieties of Mission-oriented Innovation Policies: A New Typology', *Science & Public Policy*, 48: 727–38.
- Wittmayer, J. et al. (2019) 'Narratives of Change: How Social Innovation Initiatives Construct Societal Transformation', *Futures: The Journal of Policy, Planning and Futures Studies*, 112: 1–12.
- Wittmayer, J. M. et al. (2020) 'Beyond Instrumentalism: Broadening the Understanding of Social Innovation in Socio-technical Energy Systems', *Energy Research & Social Science*, 70: 1–10.
- Wunder, S. et al. (2019) 'Kriterien zur Bewertung des Transformationspotentials von Nachhaltigkeitsinitiativen', Abschlussbericht.