

**“My Voice, My Place, My Project”:
Participatory Governance for an Urban Transition towards Sustainability“**

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Abstract¹

Cities are ascribed a double role in systemic change towards sustainability. They are seen as both seedbeds for innovation - “from local experimentation to urban transformation?” (Moloney and Horne 2015) – and as regimes of the incumbent actors of unsustainability (Wolfram and Frantzeskaki 2016, 5). This leads to a call for developing new forms of urban governance to initiate, accelerate and navigate sustainability transitions.

In an attempt to foster such new modes of governing, the German Federal Ministry of Education and Research launched the initiative “The City of the Future” that follows the model of transition management or transition governance (TG) as developed by Dutch scholars (Kemp et al. 2007; Loorbach 2010; Loorbach and Rotmans 2010, 239; Rotmans et al. 2001; Rotmans and Loorbach 2010, 140-160). TG is a prescriptive, normative approach that endorses a sustainable and equitable future. It builds on a cycle with four components, which follow an iterative process: strategic, tactical, operational and reflexive governance activities. During the strategic phase, the problem should be defined and structured and a transition arena developed as a network of frontrunners on sustainability. In the tactical phase, a transition agenda should be developed, outlining possible transition pathways. During the operational phase, transition experiments should be implemented and lessons drawn during the reflective phase.

This raises the question of what can be learnt from participatory transition governance for initiating, steering and stabilising an urban transition towards sustainability. What are the enabling factors and potential obstacles in promoting participatory transition governance in a community? And how can the approach of TG be refined and expanded by defining new policy instruments and institutional arrangements?

This is an exploratory case study of “The City of the Future – Dresden 2030+”. This citizen participation process seeks to build on and refine the approach of transition governance by developing a more pronounced form of participatory transition governance. Funded by the federal ministry, it began in 2015 and is intended to be supported by the federal ministry up to 2019. It is a participatory process to envision a sustainable future for the city of Dresden (Germany) until 2030 and beyond, develop concepts for individual projects and implement those. This is accompanied by evaluation and reflection to harvest

¹ Please note that this is an early draft of the paper as the process of “The City of the Future – Dresden 2030+” is still developing, to be concluded in June 2018.

the lessons learnt. It is facilitated by the local government and local scientific partners and encourages the engagement of civil society, local businesses, local government and administration, as well as scientists.

1) Introduction

Cities and their populations are responsible for the majority of resource consumption and greenhouse gas emissions (WBGU 2016, 2). Urbanisation with approximately two thirds of the world population being expected to live in cities by 2050 will likely increase this trend. However, when discussing urbanization and sustainability, cities are not only defined as part of the problem, but also the solution (Bulkeley et al. 2013, 29; Hodson and Marvin 2010, 480-481; Hodson and Marvin 2012; Wolfram and Frantzeskaki 2016, 5). On the one hand, they are described as urban regimes ruled by incumbent actors, representing unsustainable ways of doing (practice), thinking (culture) and organising (structure) (DTO) (Bulkeley et al. 2013, 32; Frantzeskaki and de Haan 2009). On the other hand, cities are seen as seedbeds for local innovation as depicted by the quote “from local experimentation to urban transformation” (Moloney and Horne 2015). As such, they can also compensate for the inaction of national governments and spur transformative change at other levels of governance (Bulkeley et al. 2013, 29).

This raises questions about the governance of urban transitions towards sustainability and the role of citizen participation therein. These have been discussed in several strands of literature: (a) the literature on sustainability transitions, (b) the political science literature, (c) the literature on urban studies and (d) the literature on transdisciplinary science.

(a) In the literature on sustainability transitions, policy intervention to foster transitions towards sustainability is discussed by strategic niche management (SNM) (Kemp, Schot and Hoogma 1998) and transition management (TM) (see below). SNM seeks to support the formation and empowerment of promising niches. TM discusses the enabling role of governance, experimentation and learning in processes of transformative change. Scholars repeatedly criticised that the politics of transformative change remain under-explored in the literature on sustainability transitions. They highlight that sustainability transitions are “deeply and unavoidably political” in nature (Patterson et al. 2016, 2; see also Geels 2014; Meadowcroft 2009; Meadowcroft 2011; Shove and Walker 2007). The quest for transformative change challenges the present distribution of power in its various forms (political, economic, etc.), ultimately leading to (actual or perceived) winners and losers. Thus, they argue that different actors pursue different transitions, being directed not only towards sustainability, but also the opposite, towards unsustainability (Shove and Walker 2007, 6; see also Geels 2014). Therefore, a technocratic, apolitical approach to the study of sustainability transitions should be replaced by one that makes the “*politics* of sustainability transitions” (Meadowcroft 2009; Meadowcroft 2011; highlighted in the original) the core subject of study. Along these lines, Chilvers and Longhurst argue for integrating the study of public participation in the study of sustainability transitions (2016).

(b) In political science, citizen participation received renewed attention in the debate on new forms of governance and deliberation (Forester 1999; Hajer and Wagenaar 2003; Rückert-John and Schäfer 2017). In the normative discourse on sustainability,

participation and collaboration are implicitly defined as a pre-condition for sustainability. The value of citizen participation is discussed in the three discourses on emancipation, legitimacy and effectiveness (Newig et al. 2011, 28-31). The discourse on emancipation suggests that it creates new possibilities to take part in decision-making. It is supposed to raise the legitimacy of political decisions and create transparency by enabling citizens to control politicians. It is supposed to increase the effectiveness of policy-making by integrating the perspectives and local knowledge of citizens (Fischer 2000) and, by doing so, creating acceptance by citizens. However, political science scholars also warn against a “naive” participation optimism (Newig et al. 2011, 31-33). They elucidate that citizen participation can also open space for the politics of persistence (Geels 2014), resulting in less sustainable decisions than would have been adopted by the representatives of hierarchical forms of governance.

(c) In parallel, a shift from hierarchical to more interactive, deliberative and collaborative modes of governance is discussed in the literature on urban planning studies (Coaffee and Healey 2003; Healey 2006; Schwab et al. 2017). It promotes more participation, knowledge co-creation, long-term foresight, experimentation and flexibility. It also explores the role of social practices, communities and grassroots initiatives in transitions towards sustainability².

(d) The literature on transdisciplinary science discusses the importance of participation and transdisciplinary collaboration for collective knowledge production and learning processes in sustainability transitions (Brandt et al. 2013; Lang et al. 2012; Scholz 2013 in Mieg and Töpfer 2013). By combining the local knowledge of citizens with the expert knowledge of scientists, it seeks to initiate processes of “mutual learning” (Scholz 1998). Inspired by the metaphor of a “ladder of citizen participation” (Arnstein 1969), authors propose a “transdisciplinary case study design” to ensure a maximal degree of participation for citizens in citizen science research, including them in all stages of the research process (Scholz and Tietje, 2002; Scholz et al. 2006; Scholz and Steiner 2015).

Against the background of these literatures, the call arises to explore new forms of urban governance to initiate, accelerate and navigate sustainability transitions in local communities (Wolfram and Frantzeskaki 2016, 12). This is accompanied by a call to fill the research gap on the politics of sustainability transitions (Geels 2014; Meadowcroft 2009; Meadowcroft 2011; Patterson et al. 2016; Shove and Walker 2007) and to refine and move beyond existing approaches of SNM and TM (Wolfram and Frantzeskaki 2016, 12). It is a search for a new combination of citizen participation with sustainability governance for local communities.

Based on this research gap, the guiding research question pursued in this article is the following:

- How can participatory transition governance help to initiate, steer and stabilise a transition towards sustainability in a city?

² For a review of this literature see Wolfram and Frantzeskaki 2016, 6 et seq.

This is studied with a view to both institutions and governance approaches and cultural-cognitive dynamics:

(a) Questions regarding governance approaches:

- What types of institutions and instruments are needed to enable and shape transformations towards sustainability in a city?
- Which role does citizen participation play in this process?
- What are the chances and challenges of co-creating the city by citizens?

(b) Questions regarding cultural-cognitive dynamics:

- Which norms and values emerge and/or are articulated in the process of TG?

While the City of Dresden, Germany, joined the transnational network ICLEI in 1992 and the Climate Alliance in 1994 with the commitment to sustainable development and climate protection, the criticism remains that a gap exists between the formulation of these principles and their implementation (Korndörfer 2008, 247; cf. City of Dresden 2008, 39). The level of GHG emissions was at 7.1 CO₂ equivalents per capita per annum in 2005 whereas 2.5 CO₂ equivalents per capita per annum are thought to be a sustainable level of consumption (The City of Dresden 2012). This raises the question how one can move beyond the “management of unsustainability” (Blühdorn 2007) towards truly transformative change. In the quest for pathways towards sustainability, the German Federal Ministry of Research and Education (BMBF) convened the “National Platform the City of the Future” (*Nationale Plattform Zukunftsstadt - NPZ*) in 2013 as part of its third framework programme “Research for Sustainability” (*Forschung für Nachhaltigkeit – FONA3*)³. It gathered representatives of the municipalities, the business sector, civil society and academia to develop the Research and Innovation Agenda (*Forschungs- und Innovationsagenda - FINA*) „The City of the Future”. The vision of the agenda is to develop cities that are CO₂-neutral, energy and resource efficient, adapted to climate change, adaptable, liveable and socially inclusive (The Federal Government 2015, 3). As an element of this research agenda, the competition “The City of the Future” seeks to initiate processes of transition governance in German cities. Dresden has participated in the competition since 2015, its initiative being entitled “The City of the Future – Dresden 2030+” (*Zukunftsstadt Dresden 2030+*).

The paper unfolds as follows. The next section introduces transition governance as a form of participatory governance for sustainability. The case study design and the methodology of data collection and analysis are presented in section 3. The empirical findings on “The City of the Future – Dresden 2030+” are outlined in section 4. These findings are discussed in section 5 and conclusions drawn and avenues for future research spelled out in section 6.

³ See the German Federal Government 2015 and the German Federal Ministry for Education and Research 2016

2) Participatory governance through transition governance

2.1) From transition management to transition governance

The origins of transition governance lie in the Netherlands, where it was developed at the interface of science and policy in the early 2000s. Confronted with persistent problems such as climate change, politicians and scientists sought for new forms of policy intervention in developing the fourth Dutch National Environmental Policy Plan in 2001 (Kemp et al. 2007). This gave rise to the idea of transition management (TM).

However, in the context of complex societal change, the idea of TM is confronted with the “management paradox” (Rotmans and Loorbach 2010, 143): the tension between political planning and the open-ended, emergent nature of societal change (Rotmans et al. 2001). In acknowledging these uncertainties and limitations of political steering, the term transition governance (TG) appears to be more appropriate and will be used henceforth (Frantzeskaki et al. 2012a; Loorbach 2010; Shove and Walker 2007; Smith et al. 2005). TG seeks to move beyond Lindblom’s notion of “muddling through” (1959) by offering a third way. It combines incrementalism with its emphasis on flexibility and adaptation with political planning with its emphasis on long-term strategies (Kemp et al. 2007). This can be described as “radical change in incremental steps” (Rotmans and Loorbach 2010, 145) or “more evolution than revolution” (Rotmans et al. 2001).

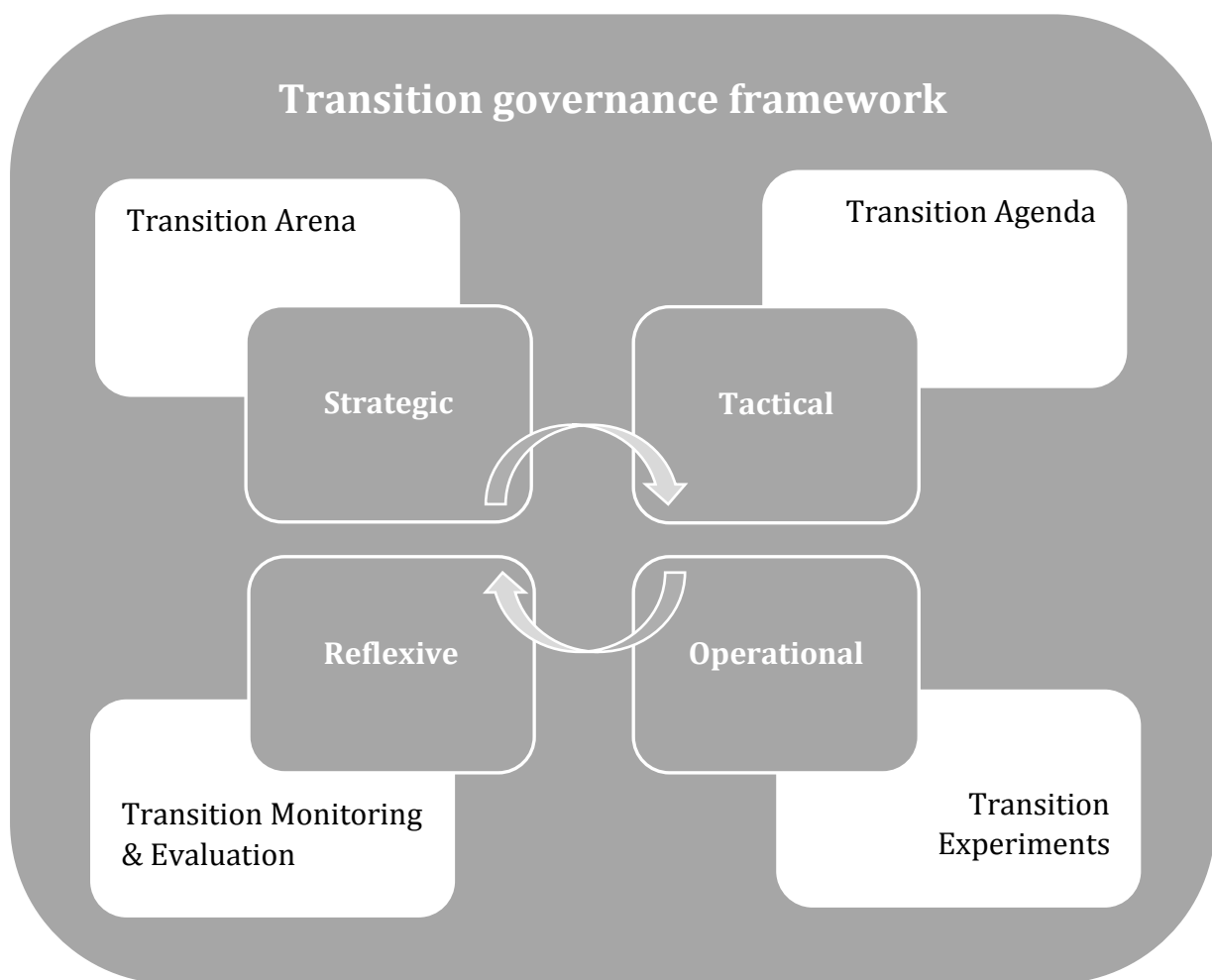
With the explicit normative orientation towards sustainability, TG is a prescriptive approach (Loorbach 2010, 163). This implies that TG can be applied in two ways: a heuristical and an operational one (Wittmayer 2016, 154). From a heuristical perspective, TG is an analytical lens to study processes of governance in communities. From an operational perspective, it is a framework of governing, endorsing citizen participation for sustainable development. In so doing, sustainability is understood as a sensitising concept, not an end state (Frantzeskaki et al. 2012b, 176). While this provides space for context-specific interpretations of sustainability, it might also cause ambiguity and argument. TG is based on the idea of creating a new social movement that challenges the incumbent system of unsustainability (Loorbach 2010; Loorbach & Rotmans 2010, 239; Rotmans and Loorbach 2010, 140-160; Rotmans et al. 2001). It is characterised by a flexible learning-by doing philosophy (Brown et al. 2013, 706). As such it can be constantly re-invented and tailored to local contexts (Wittmayer et al. 2016, 940).

TG is designed as a cyclical, iterative process with four components: a strategic, tactical, operational and reflexive phase (Loorbach 2010; Loorbach and Rotmans 2010, 238-239):

- **Strategic activities** aim at the structuring of complex societal problems and the creation of a transition arena. A transition arena is a network of frontrunners in the specific area of interest. They should develop a joint definition of the problem. By adopting a long-term time horizon, alternative, sustainable futures can be envisioned. This includes an analysis of the system and the actors and a positioning of the community vis-à-vis wider societal developments.

- With this vision as a starting point, **tactical activities** seek to develop a transition agenda and map potential transition pathways. In so doing, a shared understanding of the different perspectives, agendas and activities of the actors in the community should be created.
- **Operational activities** are about implementing transition experiments that are meant to demonstrate how the existing system could be transformed. These experiments also provide a tool to mobilise new actor networks.
- All of these phases are accompanied by **reflective activities** that should allow for evaluation and learning lessons. Through societal debate and structured research, actors should be enabled to reframe and rethink societal challenges.

Figure 1: The cycle of transition governance



Source: Adapted from Wittmayer and Loorbach 2016, 16

These activities are guided by several underlying transition governance principles (Wittmayer and Loorbach 2016, 17-18). The content and the process of TG are inseparable (Loorbach and Rotmans 2010, 243-245). TG endorses long-term thinking (of a time frame of at least 25 years) to rethink and redesign short-term policy. However, at the same time, the objectives of TG should be flexible and adjustable to respond to upcoming events or experiences. The timing of a policy intervention by TG is crucial. It should take into account possible windows of opportunity provided by the

political context. TG is intended to open spaces for actors to construct and build up alternative futures. Steering should occur from the 'inside', not the 'outside' of a societal system to be effective. The participation of stakeholders from within the community should enable processes of social learning. It should create a protected environment to explore alternative development trajectories, experiment with new routines and procedures, and learn about the perspectives of diverse actors. By so doing, problems should be reframed and solutions be redefined.


The participation of stakeholders and the relationships among them pose several challenges for TG. The initiator of TG may have substantial influence on the direction and the participation in the process (Shove and Walker 2007; Wittmayer et al. 2014; Wittmayer et al. 2016). Not all citizens are equal in their ability to voice their views in the fora created by TG. As a consequence, the extent of inclusion might be limited with certain actors, their perspectives and interests dominating the transition arena and unequal power positions being reproduced. Against this backdrop, the frontrunner approach of TG is also criticised for privileging an elite, leading to skewed participation and legitimacy deficits (Smith and Stirling 2010). TG is often transdisciplinary with researchers being involved as supporters and facilitators. However, this requires researchers to strike a balance between the neutral, objective role of an academic and the value-oriented commitment of a social actor.

The actions of TG and the local government are often based on entirely different logics. While TG endorses participation and the empowerment of citizens, reveals ambiguity and uncertainty, and encourages reflection, local governments seek to ensure representative legitimacy, accountability, control and certainty. This requires the translation and mediation between these two logics to create a new culture of exploration and experimentation (Wittmayer et al. 2016, 948).

In a similar vein, the intended effect of TG - the anchoring and embedding of sustainable ways of DTO - requires the translation between novel ideas and established practices (Smith 2007). Adopting an agency perspective, translation is not ascribed to the elements of a system, but rather studied as the translation between the different roles, practices and values of individual actors. This acknowledges that individuals are embedded into institutional contexts, where they follow both sustainable and unsustainable ways of DTO. The notion of translation means to elucidate these conflicting positions and values of individuals.

Often tensions, contradictions and fallacies within the existing system of unsustainability give rise to transformative dynamics. They trigger the search for new solutions to the existing problems (Smith 2007, 430). This translation can take the form of thin translation or thick translation (ibid.). Thin translation involves first-order learning (Schön and Rein 1994) that addresses the immediate surface features of the existing unsustainable ways of DTO. It is about adapting lessons and reinterpreting elements of existing practices of socio-technical systems. Thick translation involves both first-order and second-order learning that questions underlying values and assumptions. It challenges actors to reframe their understandings of problems and solutions. It is about altering the contexts themselves. This process is illustrated by the following figure.

Figure 2: Transition governance as a process of translation

Process element		Description
	Tensions within the system of unsustainability	The form in which environmental pressure is articulated
		Expectations of transition initiatives
	Learning	First-order lessons about the existing practices of incumbent socio-technical systems
		Second-order lessons reflecting upon framing assumptions
	The translation between the existing unsustainable ways of DTO and novel sustainable ways of DTO	Thin translation First-order learning Adapting lessons
		Thick translation First-order and second-order learning Altering contexts

Source: Adapted from Smith 2007, 444-445

2.2) Transition governance and the lessons learnt so far

Previous experiences with TG offer initial insights on the context-specificity of TG, the composition of the transition arena, the importance of resources, the potential upheaval and chaos spurred by TG and, thus, the importance of realism and modesty in applying TG (Loorbach and Rotmans 2010, 243-245).

TG proposes an ideal-type framework. However, when it is applied, it needs to be adapted to each local context and community (Beers 2016, 177-178; Wittmayer 2016, 168). This also entails the consideration of both the specific obstacles and opportunities local conditions offer.

In creating the transition arena, one seeks to gather frontrunners who are enthusiastic to “think out of the box”. Yet, they should also be capable of team work. Therefore, the transition arena should be composed in a balanced manner (Loorbach and Rotmans 2010, 243). This also entails creating a balance between pioneering actors operating outside and within the established system and actors from all social spheres, not only civil society, but also state and market actors (Wittmayer and Loorbach 2016, 158; Wittmayer 2016, 165). These actors from within the established system have a professional knowledge that can help in finding entry points for sustainable action. The interaction of these diverse actors in the transition arena might challenge existing role

understandings and social relations. It might lead to processes of societal learning that redefine the roles and relations between people in a community. This implies learning about the manifold and possibly opposing perspectives of other people. This is why TG should strive for achieving “shared actions” rather than a univocal consensus (Beers 2016, 179-180). A third intermediary party might be an important facilitator of TG.

Ideally, TG is meant to provide a protected space for pioneers without any power hierarchy. In so doing, space acquires different meanings. It is financial, mental, political, organisational and juridical space (Beers 2016, 180; Loorbach and Rotmans 2010, 243). Mental space in particular seeks to enable people to “break loose of the ‘dictatorship of the present’” (Wittmayer and Loorbach 2016, 161), gain insights on persistent societal problems and envision alternative development trajectories. Time is also such a vital resource, especially if action relies on voluntary commitment. Therefore, TG should involve people in professional contexts or create funds for supporting voluntary engagement. The provision of these resources is essential for empowering citizens and for creating a level playing field within the transition arena.

As TG challenges the status quo, it comes as no surprise that it might cause resistance, upheaval and chaos. “The regime strikes back” as Loorbach and Rotmans pointedly conclude (2010, 244). TG reveals the conflicts between the actors endorsing a transition towards sustainability and the actors preserving the status quo. Hence, the established system might re-inforce its command-and-control mode. Therefore, TG should “be prepared for the unexpected” (ibid. 244) and allow for flexibility in building up relations with entrenched actors and adjusting the transition trajectory.

This is a reminder of the realism and modesty necessary in approaching long-term societal transitions. In particular in the short-term, pre-development phase of transitions, the more indirect and intangible effects of TG should be appreciated. These include the development of a discourse on sustainability within the community and a shared perspective among the actors as well as the building of renewed trust and network connections (Beers 2016, 175; Loorbach and Rotmans 2010, 244). This implies that TG should rather be seen as an iterative cycle than a linear planning process (Wittmayer and Loorbach 2016, 158).

The following propositions can be derived from these lessons learnt from previous experiences with TG:

- TG should be adapted to local contexts and actor constellations.
- TG should integrate actors from outside and inside the existing system of unsustainability.
- TG should strive for shared actions rather than consensus.
- TG requires resources in various forms to safeguard a protected environment free of power hierarchies.
- TG should sustain flexibility and adaptability to be able to respond to and learn from the unexpected.
- TG should be seen as an iterative, cyclical process to evolve from the present to the future.

These propositions are to be explored further through our empirical research.

3) Methodology

This explorative study is grounded in the positivist research paradigm. It is a single-case study of the initiative “The City of the Future – Dresden 2030+” in Dresden, Germany, whereby the initiative is the case and the city of Dresden the context (Yin 2009).

With a population of approximately 544 000 citizens in 2015 (City of Dresden 2015), Dresden belongs to the 20 largest German cities. Being under the communist regime of the former German Democratic Republic (GDR), Dresden experienced the transition towards democracy, rule of law and a market economy fairly recently in 1989/90. This makes it particularly interesting to study the dynamics of a citizenry, who regained the freedom to participate and voice alternative views only 27 years ago and has previous experiences with profound, transformative change.

This gave rise to two generations of local transition initiatives. The first generation formed directly after the Reunification of Germany and therefore has strong connections with the environmental and peace movements of the GDR (Beleites 2016). The second generation emerged since the early 2000s and takes a more explicit recourse to the concept of sustainable development. Based on these two generations, a diverse scene of transition initiatives evolved. However, research also showed that these diverse initiatives are not very well-known to the general public, or to one another (Blum et al. 2016, 9).

These local transition initiatives had to develop in the more conservative political environment of the city of Dresden and the Land of Saxony. Within this context, many of them originated from bottom-up processes. Local elections in 2014 led to a change in government from a conservative-liberal towards a left-wing government. This might open a window of opportunity for innovative policy ideas, which needs to be examined in the future.

Qualitative and quantitative methods were combined in the collection and analysis of the empirical data. Based on a qualitative approach, participatory observation and semi-structured interviews were conducted. One quarter of the 32 workshops held throughout the project as well as the two “Conferences of the Future” convened in August 2017 and April 2018 were accompanied through participatory observation. The interviews were conducted with both participants and the makers of the project “The City of the Future”, covering phase I (the visioning process) and phase II (the planning process). They lasted approximately one hour and were recorded and transcribed.

The interviews and the protocols of the participant observations were subject to a qualitative content analysis. This analysis was based on a coding scheme that was informed by the conceptual framework. The coding was supported by a computer software (MaxQDA). This allowed for allocating exemplary text elements to categories. In combining a deductive and an inductive approach, these codes were continuously refined. The interview analysis was complemented by a literature review on the

governance of sustainability transitions and an analysis of documents on “The City of the Future”. This was done in order to validate the interview data and deepen the understanding of the governance of urban sustainability transitions.

Based on a quantitative approach, a survey was conducted among the participants of “The City of the Future”. This was intended to gather information about the composition of the group of participants. These included:

- their age, professional background, level of education and place of living within Dresden (i.e. the city district)
- their previous civic engagement
- if they participated in “The City of the Future” as part of their professional job or their voluntary engagement and, thus, if they belong to local politics, the local public administration, the business sector, civil society or academia
- the duration of their participation in the process (i.e. phase I and/or phase II, the number of workshops and conferences they attended and the attendance of the Lecture Series (*Wissensreihe*) on the future of Dresden convened by the Deutsche Hygiene Museum)
- if the urban living lab they elaborated in the project was newly-developed or continued a previous initiative.

A graphical representation of these data was generated with a computer software (SPSS).

4) Transition governance in the city of Dresden

4.1) “The City of the Future – Dresden 2030+”

The competition between cities that forms a part of the Research and Innovation Agenda “The City of the Future” is based on the model of transition governance. Accordingly, it is divided into three phases: visioning, planning and experimenting. These three phases and the funding provided by the German Federal Ministry for Research and Education are summarised in figure 3.

Figure 3: The competition “The City of the Future”

Phase	Phase I	Phase II	Phase III
Content	Visioning	Planning	Experimenting
Number of cities	51 cities	20 cities	8 cities
Funding granted	35 000 €	200 000 €	1 000 000 €

The City of Dresden was one among 51 German cities participating in phase I (visioning) between January 2015 and June 2016 and is currently among 20 German cities participating in phase II (planning) between January 2017 and June 2018. During phase I, 24 workshops were convened in cooperation with 50 local partner organisations,

ranging from civil society initiatives, business representatives to local public utilities. These were attended by approximately 650 citizens. Additionally, a “Tram Ride into the Future” (*Zukunftsbahn*) was organised on October 8th 2015 to collect ideas of the citizens on the future development of Dresden up to 2030. They were interviewed during their tram rides and invited to note their ideas on post-its. By doing so, about 714 ideas were gathered that informed the vision of the future of Dresden that was to be developed during the workshops.

This vision of the future of Dresden consists of five levels. *Global responsibility* expresses the ideal of “think global, act local” and adopting the responsibility for fairness within a global community of citizens locally. *Social responsibility* gives voice to the ideas of emancipation and direct democracy with a new culture of citizen participation to be developed in the future. *Regional responsibility* seeks to strengthen local resilience and autonomy. *Neighbourhood responsibility* promotes the idea of a city of many neighbourhoods and social cohesion. *Individual responsibility* adheres to the values of tolerance, diversity and sufficiency. An overview of this vision of a future of Dresden is given in figure 4 and an illustration of the original vision is shown in appendix I.

Figure 4: A vision of “The City of the Future – Dresden 2030+”

Global responsibility	“Think global, act local”: adopting global responsibility in a local context, reduce social and ecological externalities of urban lifestyles to other parts of the globe
Social responsibility	A sustainable, emancipated citizenry: Dresden as the European Capital of Culture 2025 also because of a new culture of citizen participation, a city of excellent citizen science
Regional responsibility	An embedded and resilient city: local resilience and autonomy, high levels of local production of vital goods (energy, food, etc.)
Neighbourhood responsibility	A city of many neighbourhoods, social cohesion between citizens and within neighbourhoods, a city of cyclists, pedestrians and public-transport-holics
Individual responsibility	A culture of togetherness and respect, the diversity of sub-cultures, tolerance of diverse world views, values, life styles; subsistence and sufficiency of life styles

During phase II, a transition arena was formed in cooperation with the following 8 local partner organisations (*Planungspaten*):

- Mobility: local transport operator (*Dresdner Verkehrsbetriebe - DVB*)
- Energy: local energy operator (*DREWAG Stadtwerke Dresden GmbH*)
- Economy: Dresden 2030&beyond (an association of local businesses)
- Neighbourhoods: a local housing cooperative (*Wohnungsgenossenschaft Johannstadt*)

- Urban space: Leibniz Institute of Ecological Urban and Regional Development (*Leibniz-Institut für ökologische Raumentwicklung*)
- Education and knowledge: Laboratory of Knowledge Architecture at the Technical University Dresden (*Wissensarchitektur, Technische Universität Dresden*)
- Culture: Office for the European Capital of Culture 2025 of the City of Dresden
- Citizen participation: Lokale Agenda 21 Dresden e.V..

These partner organisations facilitated the project team in convening the planning workshops (*Planungsworkshops*). Throughout these workshops, the participants were coached to develop their own concepts of urban living labs that could be implemented during phase III (experimenting). This coaching process is meant to enable and empower citizens to pursue and implement their own project ideas. It covered the following elements:

- Developing the vision, objective and research interest of the urban living lab
- Explicating the contribution of the urban living lab to the vision “The City of the Future – Dresden 2030+” and to a sustainable urban development
- Planning work packages and time tables for implementing the urban living lab
- Teambuilding and networking with strategic partners
- Planning the resources (financial, personnel, etc.) necessary for implementing the urban living lab.

During the first session of workshops from April to June 2017, 16 such workshops were held to be followed by another 16 between October 2017 and March 2018. Currently, 96 project ideas have been drafted⁴.

These planning workshops were accompanied by a “Lecture Series” organised together with the Deutsche Hygiene Museum in August and September 2017. The series was meant to confront outsiders with insiders of the city. External experts were invited to discuss with local practitioners and to spur and inspire a debate on sustainable urban development among the local community. The subjects covered were the future development of a dialogue among citizens, science, economy, housing and living, culture and mobility.

Two “Conferences of the Future” (*Zukunftskonferenzen*) should gather all participants. The first, held in August 2017, was meant to support networking and encourage the fusion between projects teams with similar ideas. The second, held in April 2018, meant to encourage the participation in choices over the process design of “The City of the Future” itself by hosting a debate on the strategy for applying for phase III and the allocation of the potential funding between the project teams. For the same purpose of opening up the process to citizens and giving them space to voice their views, a feedback workshop was organised in September 2017.

⁴ The catalogue “Projektkatalog Zukunftsstadt” gives an overview of these 96 project ideas: https://www.dresden.de/media/pdf/zukunftsstadt/Projekt_Katalog_Zukunftskonferenz_2017.pdf.

4.2) Initial findings and reflections

Transition governance as it is implemented in Dresden proves to be an experiment itself without a blue print. Against this backdrop, it is guided by a pragmatic, learning-by-doing philosophy (Brown et al. 2013, 706).

The transition arena formed during phase I and II provides a new space for deliberation on sustainability and networking with like-minded people. From the perspectives of the participants, it creates an environment to think out of the box and move beyond conventional pathways. However, it also reveals the challenges of creating acceptance for a strong notion of sustainability, which gives priority to the “planetary boundaries” and views society and economy as sub-ordinate (Rockström et al. 2009; see also Haughton 1999, 235; Meadows et al. 1972), among the local citizens. It shows the conflicts of values and the challenges to the business-as-usual approach that are raised by an urban transition towards sustainability.

On the one hand, the cooperation with local partner organisations helps in creating a wider outreach within the local community and representing more diverse milieus in the participation process. It also reduces the costs of the process as these partners provided venues for the visioning and planning workshops free of charge.

On the other hand, in building the transition arena, problems of inclusion come to the fore. The conception of the urban living labs proves to be a time-consuming process. This proves to be particularly challenging for parents to reconcile their professional life and their family life with the voluntary engagement in “The City of the Future”. Insufficient time and lacking childcare often hinders them to participate. In a similar vein, people with disabilities have difficulties to join because the documents used in the process could not be provided in a barrier-free manner. This would require additional resources for the project team.

The long time spans for developing a concept of the urban living lab and applying for public funding also conflict with the desire of the participants to act immediately and implement their ideas. It leaves the impression of more words than deeds. Therefore, it is difficult to sustain the long-term engagement of the participants and a fraction of the project-teams have dissolved again.

The coaching process reveals the tension between the structure provided by the coaches and the autonomy wished for by the citizens. While the coaching is found helpful by some project teams, it is perceived as a too tight frame by others.

Generally, TG needs considerable personnel resources from the project team. Therefore, sufficient resources should be planned and provided early on in the process.

The cooperation with and anchoring of the process in the local government is confronted with many obstacles on a political and administrative level. On a political level, the City Council has shown little interest in the project and ideas voiced during the planning process so far.

On an administrative level, “The City of the Future” reveals the different logics of DTO of the local public administration and transition governance. While public officials tend to think in terms of existing departments and divided responsibilities, sustainable development is a horizontal, cross-domain theme. This is why, the departments do not identify with the subject of sustainable development and need to be convinced to do so. Horizontal structures that would combine the expertise of specialised departments with environmental policy integration do currently not exist. This requires a profound change of *all* of the following elements: the ways doing (practice), the ways of thinking (culture) and the ways of organising (structure) in the local public administration.

“The City of the Future” reveals the tension between existing institutional and legal frameworks and innovative, sustainable ideas that move beyond the very same. Exactly because these ideas are innovative, they do not correspond with the existing legal architecture. They rather require a refinement and adaption of these legal frameworks to make sustainable action possible. This tension also characterises the relationship between the project and the public administration. While public officials follow legal frameworks and assess urban living labs from this legally-informed perspective, innovation for sustainability asks to leave these frameworks behind and define new ones.

“The City of the Future” illustrates the different logics of communication of TG and local media. While the project existentially relies on publicity, it does not fit the attention cycle of local media and, thus, is barely reported in local news outlets.

Appendix I: A vision of “The City of the Future – Dresden 2030+”

Zukunftsstadt Dresden 2030+

Ich bin das Konzentrat von 650 visionär denkenden Menschen, die 2015/2016 im Rahmen des Zukunftsstadt-Städte Wettbewerbs in 24 Workshops über 70 Visionsbilder eines nachhaltigen Dresdens nach 2030 entwickelten.

Globale Verantwortung

Globale Verantwortung lokal übernehmen

- Dresden als Hub im „Global Sustainable City Network“
- Dresden lebt die UN-Nachhaltigkeitsziele (SDG)
- Stadtbotschafter zum globalen Erfahrungsaustausch
- Erforschen, Erproben, Aufnehmen und Bereitstellen technischer und sozialer Innovationen



Globale Verantwortung lokal übernehmen

Das Haus der Kompetenzen/Haus der Nachhaltigkeit ist Dresdens nachhaltigste Schnittstelle zur Welt.

Dort stellt Dresdens Unternehmens-, Wissenschafts- und Mittelstandswirtschaft aus, was es der Welt an nachhaltigen sozialen und technischen Innovationen zu bieten hat. Dort stehen die Pöde in die Welt zusammen und Dresden stellt weltweit Impulse für die lokale Verantwortung für globale Entwicklung und Umsetzung.

Das Haus ist zentraler Anlaufpunkt für Restdresdener aller Art, Experimente, die nicht im starren Labor, sondern mitten im Stadtraum und dem Stadtleben stattfinden. Das Haus der Kompetenzen/Haus der Nachhaltigkeit ist die Brücke Dresdens zur Welt.

Über diese Brücke beteiligt sich Dresden an globalen Aktivitäten, es ist Ausdruck des Verbundcharakters der Stadt mit dem (2012) gegründeten global sustainability city network. Über Jahr-

Dresden: Polster der Zukunft (mit der UNO-2030 auf der Welt)

restigenden schickt die Stadt jährlich dutzende Stadtbotschafter in die Welt, die nicht nur Dresdens Fähigkeiten in die Welt tragen, sondern aus dort wertvolle Impulse zurückbringen.

Die UN-Nachhaltigkeitsziele von 2015 (Sustainable Development Goals, SDG) sind weltweit zentrale Leitlinien für die Stadtentwicklung und Ausdruck dafür, wie die 600.000 Einwohnerinnen lokal Verantwortung für globale Entwicklungen übernehmen.

Am Anfang noch bescheiden, durch

Gesellschaftliche Verantwortung

Die nachhaltige, sich selbststeuernde Stadtgesellschaft

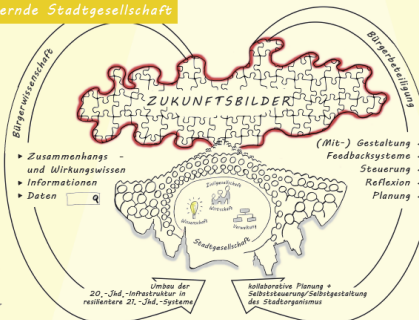
sustainable cybernetic organism

Stadt der exzellenten Bürgerwissenschaft

- Citizen Science
- Die Stadt als Campus
- Synergetische Universität
- Schulfach: System-Dynamik

Kultur der Bürgerbeteiligung

- mündige Bürger
- offene Systeme + Prozesse mit kinderleicht bedienbaren Schnittstellen



Die nachhaltige, sich selbststeuernde Stadtgesellschaft

Das Herz des nachhaltigen Lebens in Dresden 2030 ist die nachhaltige, sich selbststeuernde Stadtgesellschaft. Die Dresdner haben durch zahlreiche Experimente erprobt und gelernt, wie möglich eine Milleus in Beratung- und Entscheidungsprozessen der Stadtentwicklung sein können. Die Stadtgesellschaft wird in der Stadtgesellschaft gewandelt werden, die Gesellschaft passiert nicht nur im Prozess-Wissenschaftsbereich, sondern der Gestalt der Dresdner begreift sich selbst im Alltagsgeschehen als Forscher, als „Citizen Scientist“.

Die Palimpsest der Selbststeuerung nicht aktiv ausgeübt und durch erprobte Werte ist die Idee von Dresden als einem nachhaltigen cybernetischen Organismus. Die Erhebung als Kulturstadt Europas 2025 hat sich Dresden auch mit einem erweiterten Kulturbegriff verdient.

Die Kultur der Bürgerbeteiligung hat europaweit Vorbild-Charakter. Die Stadtbeohner sagen stolz:

sich in Unterricht und kulturellem Stadtleben so begegnen, dass demokratische Umgangsformen schon „mit der Mutter-milch“ ausgesogen und ausprobiert werden, seine Hintergrund- und Entscheidungswissen fortwährend in der Stadtgesellschaft gewandelt werden, die Gesellschaft passiert nicht nur im Prozess-Wissenschaftsbereich, sondern der Gestalt der Dresdner begreift sich selbst im Alltagsgeschehen als Forscher, als „Citizen Scientist“.

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Die Kultur der Bürgerbeteiligung hat europaweit Vorbild-Charakter. Die Stadtbeohner sagen stolz:

„Diese Stadt gestalten wir selbst!“

Regionale Verantwortung

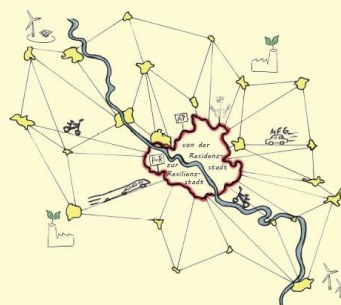
Eingebettete resiliente Stadt

resilient: widerstandsfähig gegenüber Krisen und Störungen

- solar city
- post carbon region
- Interkommunale Kooperation
- Regionalwirtschaft

regionaler Selbstversorgungsgrad 2030: 73%

- Energie
- Bildung
- Essen
- Gesundheit
- Bauen
- Mobilität
- Bekleidung
- Alltagswaren



Stadregion Dresden: die eingebettete, resiliente Stadt

Auf regionaler Ebene dominiert ebenfalls die Zusammenarbeit. Dresden hat bis 2030 sich als resiliente, das heißt „widerstandsfähige“ Stadt positioniert. Widerstandsfähig gegenüber Krisen und Störungen aller Art, sei es durch Klima- und Hochwasser, sei es globale Finanz- und Wirtschaftskrisen, sei es Energieengpässe und Stromausfall.

Die Vernetztheit der Stadt hat stark nachgefragten, werden in regionaler Zusammenarbeit auf die resiliente Stadtregion zugebaut wird. In dem Zusammenhang positioniert sich Dresden als solar city und arbeitet auf die regionale Ökonomie mit starker Regionalwirtschaft zu.

Der regionale Selbstversorgungsgrad mit Lebensmitteln beträgt 73%. Die Kultur der Resilienzstadt Dresden strahlt auf die Umgebungsregion aus, gemeinsam formen sie eine resiliente Stadtregion, die auch ihren Energiebedarf zu drei Vierteln aus sich selbst heraus deckt.

Viele Nachbarschaften bilden eine Stadt

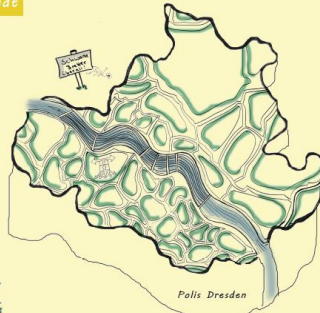
- » Leben in verantwortungsvoller Nachbarschaft
- » die grüne Stadt der kurzen Wege
- » die verbrennungsmotorfreie Stadt

- ▶ feiern
- ▶ produzieren
- ▶ helfen
- ▶ pflegen

- ▶ lernen
- ▶ lieben
- ▶ lachen
- ▶ diskutieren

- *entscheiden*
- *planen*
- *erhalten*
- *bauen:* ► *k*

- ▶ solar-gerunnt
- ▶ modular
- ▶ multifunktional
- ▶ leicht



Viele Nachbarschaften bilden eine Stadt

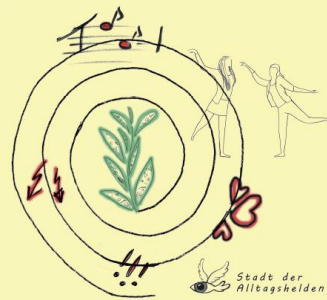
Der Wunsch nach Nähe hat in Dresden ein Leben in Nachbarschaften hervorgebracht. Man fragt, aus welchem Block man kommt, denn es sind die durchmischten, sehr lokalen Häuserblocks, in denen das innerstädtische Leben seine Wurzeln hat. Nachbarn reden und teilen miteinander, und organisieren sich in kleinen gemeinschaftlichen Stadtteilen der Stadt der kurzen Wege.

Viele Nachbarschaften bilden eine Gesamstadt (Pois) ist spurbar ge-
wachsen.

Kultur des respektvollen Miteinanders -
Stadt der nachhaltigen Kooperation

- » sich begegnen
- » zu hause sein
- » sicher fühlen
- » ankommen
- » dazugehören
- » etwas beitragen dürfen
- » zusammen seinen Kiez gestalten
- » aktiv sein

...und du?



Kultur des respektvollen Miteinanders: Stadt der nachhaltigen Kooperation

Die Spaltung der Stadtgemeinschaft in den Pegida-Jahren wurde durch tiefliegende Kommunikationsprozesse umgekehrt. 2010 prägt eine menschliche Kooperationskultur die Beziehungen zwischen den Kultur des respektvolles Miteinanders.

Man streift und reiert und anerkennt die Vielfalt der (Sub-)Kulturen, menschlichen Wesen, Lebensformen, Lebensweisen und Lebensweisen. Sich zueinander fühlen ist in Dresden leicht. Kooperationskultur ist in Dresden einleuchtend. Die Grenzen hinweg und auch zwischen den Institutionen der Stadt existiert eine ins Unendliche gehende Kooperationskultur. Der Vorteil:

Wo Zusammenarbeit so einfach ist, wachsen Win-Win-Situationen an jeder Straßenecke. Echte Alltagsheiden wachsen in Dresden dort heran, wo es gilt, sich zu helfen, Initiativen in der Nachbarschaft zu starten und Subsistenz (Selbsternährung/Selbermachen) und Suffizienz (Genügsamkeit) anzustreben: Um den ökologischen Fußabdruck der Metropole zu verringern und die Ressourcen-Ansprüche der Stadt an die regionalen und globalen Rahmenbedingungen anzupassen.



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