



EVALUATING A CITY LAB PROCESS IN MANNHEIM'S DISTRICT NECKARSTADT-WEST: THREE MAIN CHALLENGES FOR THE EVALUATION

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ABSTRACT

During the last few years, city labs have emerged as promising formats to address transformative change. The aim of these formats often is to create collaborative spaces in which different stakeholders can jointly experiment with novel solutions for certain problems. While city labs start to establish transdisciplinary research settings, evaluating the effects of a city lab still brings about several challenges. In this contribution, we reflect on three main challenges that emerged in the course of evaluating a city lab in Mannheim's district Neckarstadt-West. The city lab was conducted as part of the research project SONNET (Social Innovation in Energy Transitions) and aimed to encourage social innovation in energy and thereby enable local energy transition. In the context of evaluating the city lab, we identified three main challenges that were related to a) evaluating an ongoing and open process, b) external shocks (especially in the context of the COVID-19 pandemic) and c) evaluating new forms of innovation under the concept of 'social innovation'. The main achievement of this evaluation was to trace the process of a city lab and identify changes in objectives as well as the engagement of different stakeholder groups. However, an evaluation of the city lab's outcomes remains challenging due to the openness of the process. This suggests rethinking linear evaluation models in favour of co-designing evaluation criteria in the course of the city lab process.

1 INTRODUCTION

With an increasing number of people living in cities and due to the high amount of CO₂ emissions produced by cities, a growing body of literature describes cities as crucial arenas to address climate change (see e.g. Frantzeskaki et al. 2018; Evans et al. 2018). While the technical and infrastructural aspects of urban transitions surely are of great importance, the awareness for the need to address the social as well as societal aspects of urban transitions is raised. As Evans et al. (2018)

describe it: "Problems associated with climate change, economic underdevelopment and social inequality are essentially urban in character. And so are their solutions." Within this discussion strand, urban experimentation has emerged as a method to explore new modes of governance, breaking routines, encouraging social innovation and empowering stakeholders that were so far not included in urban change processes. This implies the widening of the understanding of transformative change needed for transitions towards sustainability: from focusing on technical innovations only to a broader understanding of innovation that also includes social innovation.

One of the main formats for urban experimentation processes are city labs. During the last few years, a growing body of literature has discussed this format under slightly different terms (e.g. 'Reallabore' in the German discourse, see e.g. Defila and Di Giulio 2018) and has also offered different definitions of the term 'city lab'. In this contribution, we understand city labs as collaborative settings that are led by city administrations but co-designed, co-created, co-monitored and co-evaluated by further stakeholders, including researchers and citizens (Dembek et al. 2020, p. 8). One main feature of city labs is that experimentation takes place in real life contexts but is shaped by settings that are locally and temporally limited. Furthermore, city labs usually pursue specific aims, like the inclusion of stakeholder groups such as citizens or initiatives representing civil society that, so far, have been mostly excluded from (technological) innovation processes.

In this paper we discuss the evaluation of the SONNET city lab¹ in Neckarstadt-West (a municipal district of the city of Mannheim, Germany). As part of the bigger EU-funded research project SONNET, the Mannheim lab aimed at developing and testing social innovation in energy (Dembek et al. 2020). Social innovation in energy (SIE) refers to all types of changes in social relations around energy production, supply, trading or consumption. Examples are among others presuming, peer-to-peer electricity exchange but also knowledge exchange in energy dialogues or gamification for energy savings (Wittmayer et al. 2020).

The SONNET research partners of the city lab were asked to conduct an outcome evaluation of the lab and assess the results of the city lab es-

¹ The project SONNET has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 837498. For more information see: <https://sonnet-energy.eu/>

pecially regarding how the city lab's (activities) have contributed to SIE. So far, evaluations of city lab activities have often focused on assessing the processes leading to the development of the lab's activities. The emphasis of those evaluations is then on enabling and hindering factors for co-creation processes. However, the analysis of wider outcomes of city labs and especially their transformative potential is often not taken into account. By reviewing the literature on the evaluation of social innovation, Milley et al (2018) found an emphasis on developmental evaluation approaches that focus on the process of the evaluation rather than the outcomes. One reason for this is the timing of the evaluation: city lab evaluations are often done by the research team accompanying the city lab design and implementation and therefore are conducted during the lab's lifetime and in parallel to its implementation.

The paper describes the challenges that emerged in the course of the city lab evaluation and reflects on the original ambition to assess the effects of the city lab and in particular the lab's contribution to social innovation in energy.

In this regard, we formulate the research question of this article as follows: Which challenges arise in the course of evaluating a municipal experimentation process that aims to encourage social innovation in energy?

Hence, we contribute to the current discussion on how to evaluate urban experimentation and social innovation and establish a link to the current academic discourse on how to assess transformative outcomes and the discussion on new evaluation approaches for transformative policy interventions.

The paper is structured as follows: In the next chapter, we first introduce the SONNET city lab in Mannheim's district Neckarstadt-West (NSW). In order to understand the rationale of the city lab, we elaborate on the specific characteristics that shape the city of Mannheim and the neighbourhood in which the experimentation process takes place. Chapter 3 presents the focus and methodology of the evaluation. Chapter 4 discusses the main challenges the evaluation faced with regard to a) the experimental process of the lab; b) substantial changes in the external context of the lab; c) the use of the concept of social innovation. We close with a discussion on how these challenges relate to the current discussion on the evaluation of interventions with transformative ambitions and the challenges to assess transformative outcomes.

2 THE SONNET CITY LAB IN NECKARSTADT-WEST

THE CITY OF MANNHEIM AND THE NEIGHBOURHOOD NSW

The city of Mannheim is located in the south-west of Germany. With about 320,000 inhabitants, it is among the 25 largest cities in Germany. Shaped by its industrial background and heavy industry located in Mannheim, the city has committed itself to the climate protection target and will become a climate neutral city by 2050 (status as of Sept. 2021). Thereby, the city faces different tensions. One example is keeping its status as an attractive site for economic development but at the same time reducing CO₂ emissions. Furthermore, Mannheim can be characterized as a heterogeneous city including well-situated homeowners with a higher awareness for sustainability related topics but a bigger CO₂

footprint on the one hand and neighbourhoods that are shaped by socio-economic difficulties, migration, low education and energy poverty on the other hand.

Mannheim is a city that claims to actively drive the transition process towards sustainability. A central aspect of its activities towards sustainability is its Mission statement "Mannheim 2030" in which the city has translated the 17 UN Development Goals into a sustainability strategy. This strategy was developed in a participatory process and translates the city's aim to encourage co-creation and (citizens) participation in decision making, the design of urban spaces and the implementation of transition pathways.

In the past, the city of Mannheim implemented several urban development projects related to energy. These urban renewal projects often focused either on new municipal districts (especially reconversions of open spaces, such as former military sites) or districts with a high socio-economic status. In recent years, the city has also been actively involved in transdisciplinary research projects. As part of one transdisciplinary project called SONNET (Social Innovation in Energy Transitions), Mannheim has created a city lab in Neckarstadt-West that aimed at encouraging social innovation in energy and thereby enabled a local energy transition.

The novelty of the SONNET city lab was to choose a neighbourhood with completely different characteristics than previous urban renovation projects as an experimental space. NSW is a densely-populated district, with few green and recreational spaces. The majority of inhabitants in NSW are tenants that live in older apartment buildings, which need to be refurbished. Social deprivation, a high unemployment rate, migration and social exclusion characterise its population. In this context, so far no priority has been given to participatory projects on the topic of energy. Hence, no blueprint existed for the city lab stakeholder with regard to how to involve a densely populated inner-city district in a process of participatory energy transition.

THE CITY LAB NSW

The SONNET city lab in NSW started from a broader definition of social innovation in energy, defining SIE as changes in social relations around local energy use and consumption. This was to be achieved by eliciting new ways of communication and interaction between the city administration and local stakeholders, stimulating citizen participation and inducing shifts in roles and responsibilities of the participant stakeholder. Therefore, the city lab aimed at collaboratively designing energy-related activities and implement them during the city lab's lifetime. All activities were to be designed to address the specific needs of the Neckarstadt-West neighbourhood.

The lab was conducted between December 2019 and August 2021. It started with three design thinking workshops involving city administration staff and stakeholders working in NSW. The objectives of the design thinking workshops were to bring stakeholders together around the topic relevant to energy transition and to develop activities that could then be implemented in NSW. The first COVID-19 pandemic induced lock-down entered into force a couple of days after the last design thinking workshop and stopped further work of the workshop participants. However, this break was also a possibility to re-think the initial objectives and planning of the city lab. It had become clear during the first months of the city lab that the design-thinking process was not well suited to represent

the diversity of already existing initiatives and stakeholders in NSW and to reach out to the citizens. Instead, it was important to get to know the existing stakeholder structures of the neighbourhood. NSW as a dense inner-city neighbourhood has already a lively scene of associations, although only few initiatives on the topic of energy exist. The city lab was the possibility to see which stakeholder groups were interested in joining forces on the topic of energy transition.

Consecutively network building with stakeholders in NSW and finding multipliers and mediators for the topic had to be prioritized. The phase of network building and stakeholder engagement took place between summer and autumn 2020 and culminated in a first NSW-stakeholder group event in December 2020. It targeted especially professional (full-time professionals, e.g. teachers at schools, neighbourhood managers etc.) and organized stakeholders (volunteers, e.g. associations, local citizen networks) of NSW and gave them a new platform to brainstorm topics to be prioritised. Due to the COVID-19 pandemic, the discussion on the development of activities continued within a narrow group of people.

While initially the city lab aimed for co-designing concrete activities, the final choices for the two show-case activities was made by the core actors involved in the city lab in spring 2021. These changes to the initial plan were a result of the readjustment processes of the lab and reinforced by the restrictions imposed by the COVID-19 pandemic. From a practical perspective, the activities were chosen because they both could be implemented despite the retractions that existed due to the COVID-19 pandemic. However, these activities had never been implemented in Mannheim before and reinforced the aim of the city lab to experiment with new methods for engaging citizens and local stakeholders in a dialogue process. In line with the aim to include local stakeholders in a broader transition process, that activities focused on knowledge exchange and awareness raising and allowed to inform and involve different stakeholder groups. The two activities - 1) the Mobile Green Room[®] and 2) the KliMAthon app - were both implemented in summer 2021.

- The Mobile Green Room[®] is a planted, container-like platform that can be transported and therefore allows to temporarily display urban green in densely built environments.² It serves as a prototype for greening the urban areas and allows citizens to experience the advantages of urban green. In Neckarstadt-West

it was also used as a platform for outdoor events or informal meetings as it provides space to sit or stand on it. As part of the city lab in Neckarstadt-West, a Mobile Green Room was installed for 12 weeks in different locations in the district and used by different stakeholders, such as a local church community, a school or the neighbourhood management for activities.

- The KliMAthon³ is an app-based competition that encourages participants to save CO2 emissions. It allows to calculate a personal CO2 footprint, provides tips for climate friendly behaviour and encourages to participate in 'challenges' such as taking the bike to work or abstain from dairy products for a certain period of time. For 42 days, citizens were invited to use the app and participate in challenges in order to save emissions together and create awareness for sustainable behaviour.

The selection of the two activities illustrates a broadening of the scope of the city lab activities beyond energy related topics towards sustainability in a more general way. The city lab participants regarded this broadening of the thematic scope as necessary in order to better reach out to the local Neckarstadt-West stakeholders. The original narrow focus on 'energy only' was described as being too abstract to attract the attention of locals, however, the focus on sustainability - especially on enhanced living conditions - was more in line with the citizens' needs.

The next section discusses the challenges that arose during the evaluation process.

3 EVALUATION FOCUS AND METHODOLOGY USED

In order to assess the effects of the city lab and especially changes in social relations in the field of energy in NSW, the evaluation chose the following evaluation criteria and formulated the evaluation questions displayed in the table.

Eval. Criteria	Explanation
Relevance	The relevance of the activities with regard to the needs of the inhabitants of the neighbourhood Neckarstadt-West.
Coherence	The coherence and embeddedness of activities with the Mannheim strategy "Mannheim on Climate Track" and the embeddedness of various non-SONNET related activities existing in Neckarstadt-West.
Inclusiveness	The inclusiveness of the process of the city lab: this aspect was twofold and looked into a) whether the relevant stakeholders in Neckarstadt-West had been included in the city lab and b) whether professional stakeholders from outside Neckarstadt-West, especially staff from different city departments had been involved in the city lab and how.
Effectiveness	The effectiveness of the lab with a specific focus on how the city lab had contributed to changing social relations (in particular in the energy field), for example new networks of actors, changes in communication patterns or even new organisation structures (social innovations).

Table 1: Evaluation Criteria of the SONNET City Lab Evaluation

2 <https://www.mannheim-gemeinsam-gestalten.de/dialog/informationen/mobiles-gruenes-zimmerr-der-neckarstadt>

3 The App was developed and provided by worldwatchers GmbH: <https://www.worldwatchers.org/>

While the evaluation criteria were suggested by the SONNET project, the exact formulation of the evaluation questions and their translation into descriptors was re-adjusted during the evaluation process. This allowed reacting to changes in the city lab process.

From a methodology point of view the evaluation was inspired by the method of process tracing (George and Bennett 2005). For the data collection and analysis we concentrated on qualitative methods as they allowed greater flexibility to adapt to the processual character of the lab and trace the development of changes. The evaluation questions were translated into qualitative descriptors that qualified the degree of changes occurred during the city lab implementation.

Our main data collection methods were interviews and participatory observations. At the heart of the evaluation were interviews with stakeholders involved in the two show-case activities, the Mobile Green Room® and the KliMATHon app. Overall, 10 interviews were conducted between May and the beginning of August 2021. The data was complemented by interviews with Mannheim stakeholders not primarily related to the city lab activities in NSW and observations at different events conducted during the city lab, such as the design thinking workshop or stakeholder events.

During the course of the evaluation, it became clear that the focus of the evaluation had to be put on the implementation process of the city lab. The evaluation of the outcomes of the city lab, however, could not be realised as originally intended. Especially the assessment of SIE development and its transformative potential remained rudimentary. The next chapter discusses the evaluation’s challenges that finally led to the shift in the evaluation focus.

4 DISCUSSION OF CHALLENGES FACED DURING THE EVALUATION

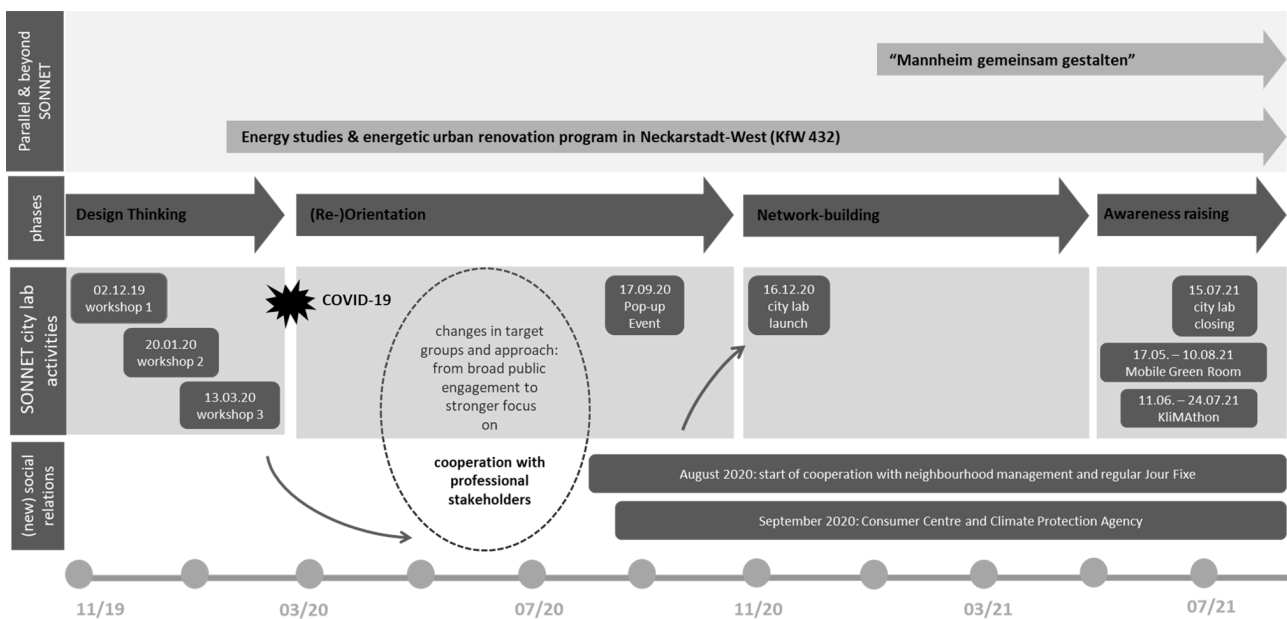
4.1 CHALLENGES RELATED TO EVALUATING AN ONGOING EXPERIMENTAL PROCESS

As described in chap 1.2., the SONNET city lab was characterised by changes in methods, activities, target groups and the reflection on objectives. We argue that this process of permanent readjustments is characteristic for an experimental process. In the literature on (urban) experimentation the experimental processes show four phases: a) launch of the process, b) preparation phase (especially choosing the experimental activity, the methods to implement, the indicator to measure it, and the stakeholder involved); c) the implementation phase of the experiment; d) evaluation / reflection phase (e.g. Knieling et al. 2021). This is also how SONNET foresees the city lab implementation (Dembek et al. 2020).

For the evaluation of the city lab, two challenges arose: First, the assessment of the lab’s contribution to perceived change was difficult due to the fluid boundaries between the lab and other parallel activities. Second, the readjustments with regard to goals and target groups during the lab implementation process asked for a flexible approach to the evaluation especially regarding the assessment of goal attainment.

In order to address these challenges, the evaluation team traced the implementation process backwards. The starting point was the reconstruction of the overall city lab process at the end of the lab’s lifetime (summer 2021). The next figure shows the reconstructed process. In retrospective, four phases of the city lab have been defined which have involved changes in target groups and subsequent adaptation of activities, events and tools.

Figure 1: Reconstructed process of the SONNET city lab
 Source: own illustration, Fraunhofer ISI.



In the SONNET city lab NSW the four phases mentioned in the literature could not be clearly distinguished. The “experiment” started already with the choice of the neighbourhood NSW, as no blueprint existed in Mannheim how to encourage social innovation related to energy in a neighbourhood similar to NSW. The city lab’s main activity (and its main achievement) was to connect stakeholders who were willing to join forces on the topic of energy transition in the district. In this sense, the overall city lab implementation was an open process with regard to the stakeholder groups involved, the choice of activities and to some extent the objectives of the lab.

With regard to methods and tools, the city lab was a possibility to test out which methods would work well, under which preconditions and for which types of stakeholders (e.g. professional stakeholders, initiatives and organisations of NSW, citizens of NSW). Testing methods and tools for stakeholder involvement was an explicit aim of the city lab from the beginning but was intensified during the process of the lab. As the organizers of the SONNET city lab were also involved in other projects in the neighbourhood (e.g. a program for energetic refurbishment) and activities on the city level (e.g. the Mannheim strategy or citizen involvement process “Gemeinsam gestalten”) the SONNET city lab eventually fitted well into the overall city’s projects portfolio on sustainability transition.

The adjustments during the lab implementation also implied shifts in the objectives of the city lab. The original aim to design and implement activities related to energy transition in the city lab’s lifetime and with participation of local stakeholders, especially its citizens, had to be revised. The evaluation acknowledged these changes and focused on assessing the network building and interaction processes of stakeholders around energy related topics. Furthermore, it took up the question which participation methods were suitable for different stakeholder groups in order to induce changes or create new social relations.

The evaluation took place during the final phase of the city lab, i.e. still during the lifetime of the experiment. However, due to the short lifetime of the overall lab (1,5 years including a longer stand-still period caused by the COVID pandemic) it was difficult to assess changes in social relations, especially with regards to their innovative potential (i.e. mainstreaming potential and sustainable application).

4.2 CHALLENGES RELATED TO EXTERNAL SHOCKS

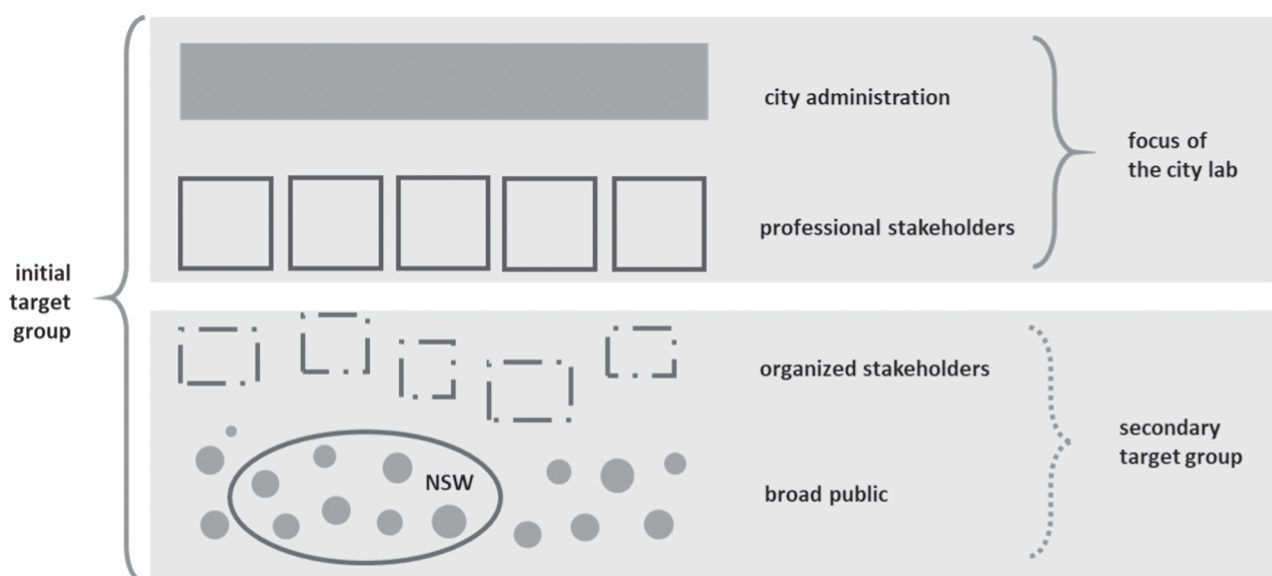
The COVID pandemic started four months after the launch of the city lab. The first lockdown in spring 2020 destroyed the initial plan to gather (physically) the local initiatives and contact citizens in the NSW neighbourhood and discuss activities related to energy transition. Due to this external shock, the priorities of local NSW stakeholders changed considerably. Health issues dominated the local political agenda to the disadvantage of the already non-prioritised topic of sustainability in general and energy transition in particular. The city lab continued its work, however, with a small group of core participants, all of them “professional stakeholders”, i.e. people working for the neighbourhood as part of their paid job, such as the staff of the city administration. On the other hand, volunteers of local initiatives but also school staff had only limited possibilities to participate in the discussions around the city lab, especially in the times of the COVID lock-downs.

The next figure presents the shifts in target groups during the lab implementation.

The COVID pandemic affected the evaluation insofar as only few on-site visits could be realised, limiting the possibility for direct observation

Figure 2: Target groups of the SONNET city lab

Source: own illustration, Fraunhofer ISI.



e.g. in meetings or a newly created exchange (regular meeting of the stakeholders involved to discuss the local energetic renovation process in NSW) or spontaneous exchanges between the team of evaluators and the city lab participants.

4.3 CHALLENGES RELATED TO THE VAGUE CONCEPT OF SOCIAL INNOVATION

With the overall aim of the SONNET city lab in NSW to encourage social innovation in energy (SIE), one of the main challenges faced in the evaluation process was that a plurality of definitions of social innovation exists among researchers as well as practitioners.

In academic discourse, differences in defining social innovation (SI) exist among scholars who follow a normative definition that highlights the role of social innovation as ‘good for society’ (Murray et al. 2010) and those using it as an analytical definition interested in tracing the development of social innovation (Howaldt et al. 2015). Also the subject of SI is divers. It can refer to changes in social relations (Avelino and Wittmayer 2017), novel practices, e.g. related to sustainable consumption (Jaeger-Erben et al. 2017) or novel business models, e.g. contributing to energy justice (Hiteva and Sovacool 2017). One central aspect of social innovation, however, is the empowerment of social groups that so far have been excluded from participating in innovation processes.

For the SONNET project, the main interest was in understanding how social relations around energy are changing and what conditions enable or impede the transition towards a more sustainable energy system. In this sense, SONNET defines SIE as “(combinations of) ideas, objects and/or actions that change social relations and involve new ways of doing, thinking and/or organising energy” (Wittmayer et al. 2020). The SONNET

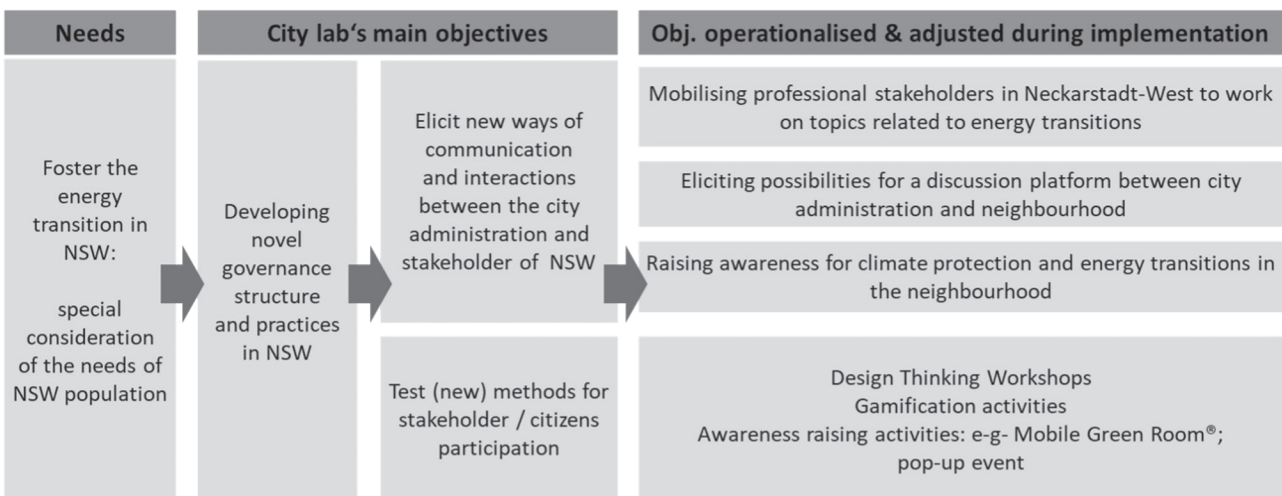
city lab in NSW embedded this definition of SI in its overall aim, to “develop novel urban governance structures and practices for enabling social innovation in the energy sector.”

However, this definition left room for interpretation with regard to what social innovation in energy might be. Consequently, the city lab stakeholders rarely used the concept of social innovation. Especially in discussions with citizens and local initiatives, the city lab responsible translated SIE as was “social aspects of energy”. SONNET’s research on the role of policy making for social innovation showed that the awareness for social innovation among policy makers still needs to be increased and a shared understanding of SI developed (Rogge et al. forthcoming). This also applies for the local level: While the awareness for the important role of social innovation starts to increase among policy makers on the local level, a shared understanding of SI and a way to implement it is still missing.

The evaluation faced the challenge how to work with such a fuzzy definition as two options for analysing SIE seemed possible: SIE could both be seen as a ‘means’ in the city lab process (i.e. such as in the SONNET definition of SIE as “changing social relation”) or rather as a ‘result’ of the city lab, (i.e. as suggested by the city lab objective of “enabling social innovation in energy”).

One task of the evaluation was to operationalise the overall aim of the city lab into distinct and clear subordinated objectives but also to name the broad rationale of the lab (“foster energy transition in NSW”). The next figure presents the final version of the hierarchy of objectives, which was elaborated at the very end of the evaluation process. On purpose, SIE is not explicitly mentioned here, as their development is considered as an outcome of the city lab.

Figure 3: Objectives of the SONNET city lab
Source: own illustration, Fraunhofer ISI.



As a consequence of the unclear definition of SIE, two different evaluation designs were possible: analysing SIE as an activity of the city lab or tracing the process that produces SIE. The evaluation started by evaluating SIE as an activity, namely the two show-case activities implemented in summer 2021. However, it became clear during the evaluation that focusing on such a narrow part of the overall city lab would not have been sufficient to capture the complexity of the city lab. Thus, after the first interviews, we shifted the focus in order to take the overall development process of the city lab into account. Rather than defining ex-ante activities as social innovation and assess their effects on the city lab, we understood SIE as a possible result of the city lab. In line with the definition of SIE as “changes in social relations” (in the context of energy), we focused our analysis on the identification and interactions of stakeholder groups as well as the tools and methods that structured exchange and participation. In the particular case of the SONNET city lab, the following aspects proved to be important for encouraging SIE:

- a) Mapping stakeholders before engaging in a participatory design process;
- b) Reflecting on suitable participation formats for different stakeholder groups;
- c) Establishing a new communication process between stakeholders who had formerly not interacted;
- d) Taking into account the needs and external contextual constraints of the involved stakeholders.

In this sense, the SONNET city lab allowed to gain knowledge on enabling and impeding conditions for SIE in the NSW neighbourhood. At this point in time we cannot tell whether the new stakeholder configuration and interaction practices will be continued in the NSW or even inspire processes in other districts of Mannheim. One has to acknowledge that the city lab was conducted over a short period only – but changes in social relations are processes that require time to develop and become institutionalized (Hielscher et al. 2020). However, the evaluation concluded that the city lab has successfully kicked-off a stakeholder identification and mobilization process on energy topics in NSW. This process is likely to be continued after the city lab has closed, as the neighbourhood is currently participating in a five-year urban renovation programme (funded by the German KfW-Bank). In this sense, the city lab can be understood as an important first step in a longer urban transition process.

5 DISCUSSION AND OUTLOOK

In this article, we reflect on the challenges faced during the evaluation of the SONNET city lab process in Mannheim’s district Neckarstadt-West. The challenges that the evaluation was confronted with arose from its main features that were a) the experimental character of the project and b) the concept of social innovation as a central conceptual framework of the project. Furthermore, the changes in planning of the experiments as a result of the COVID pandemic added another challenge.

Recent literature on the evaluation of transformative innovation policies discuss different evaluation design features that could be useful to assess these specific types of policy interventions. Molas-Gallart et al. (2020) present “six guiding principles for transformative innovative policy evaluation”. One of the principles is the idea to use a flexible theory of change that is readjusted during the evaluation. We found this idea

very useful with regard to the reorientation of objectives and activities of the SONNET city lab. Indeed, we readjusted the logic chain leading to expected outcomes several times in order to be in line with the actual activities and rationales of the stakeholders, but also following a deeper understanding of the city lab’s experimental process.

In the evaluation of the city lab NSW, not all of the six principles could be implemented, especially the claim to conduct a formative evaluation with the active participation of stakeholders (affected by the evaluation) could not be realised. However, we acknowledge that a stronger involvement of at least the main stakeholders of the city lab (from the city administration and the neighbourhood) would have allowed going deeper in assessing the effects of the city lab instead of focusing mainly on the process and conditions for implementation.

The other side of the claim of a more inclusive and participatory mode of evaluation, is the (new) role for the evaluators. In the SONNET city lab the role of the evaluator was not clearly defined. The SONNET project assigned to the research partner (and evaluator) a role as an involved partner in the city lab, e.g. as facilitator, mediator or as a partner for critical reflection. In the SONNET city lab the evaluator’s role should be rather described as an external assessor. Exchanging the ideal roles (and their evolution) of each party should be an integrated part of this new type of “co-productive” evaluation.

The period in which the evaluation had to take place - namely during the lifetime of the city lab - hindered looking at outcomes. This seems to be a general problem of transdisciplinary social labs. Generally, these labs have a dedicated research team that monitors the implementation process scientifically and compares different settings (e.g. different city labs such as in the SONNET project). However, the mandate of these researchers ends with the implementation of the city labs. To our knowledge, ex-post outcome evaluations of city labs are seldom conducted.

In our case it proved very helpful to focus on the evaluation criteria of ‘relevance’, ‘inclusiveness’ and ‘coherence’ and to put the emphasis of the analysis on the design of the interventions as a crucial factor that influences the effective implementation and development of effects. (Mickwitz et al. 2021)

Ghosh et al. (2020) discuss the need for new outcome categories (especially complementing the traditional STI outcome categories and indicators), the so-called “transformative outcome”. Social innovation can be understood as such a new type of outcome. Research on the role of policy making for social innovation suggests that more research is needed on the possible impact pathways of SI and the development of indicators along the pathways (Rogge et al. forthcoming). While on the EU and the national level policy strategies for social innovation are emerging, the concept of social innovation needs to be broken down to the local context and the specific aim of the experimental process.

Our contribution highlights the challenges that evaluations of experimental and transdisciplinary policy measures are confronted with. Current discussions in the evaluation community provide interesting approaches that could be further explored and tested in future evaluations.

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