

Abstract

Making cities more sustainable is high on the agenda in many countries, but a major challenge is the identification of which actors should contribute, and how. This paper departs from an assumption that visions may guide urban development work, and examines and compares national and local governments' visions of future sustainable cities in Norway. The case study is the urban multilevel governance program 'Cities of the Future'. Previous literature on urban sustainability and multilevel governance stresses the importance of shared visions and goals between stakeholders. However, the paper finds that, in the context under investigation, visions were partially dis-aligned between national and local stakeholders. Nevertheless, participants from both national and local governments considered the Cities of the Future program as successful. This was especially due to the learning networks facilitated by the program. The paper critically discusses the assumption of alignment and suggests a shift of attention from the content of vision to the processes of *vision making*. By this, we may understand visions as possible trading zones for the negotiation of future directions in urban sustainability.

Keywords: Future sustainable cities; vision making; trading zones; national governments; local governments; actor-network theory

Highlights

- Diverging visions of future sustainable cities, the distribution of responsibilities, and the perception of citizens between national and local stakeholders
- Despite dis-alignment of visions, the program was considered as successful
- The process of *vision making* may be more important than the actual content of the visions
- Vision making enabled trading zones for negotiating possible future directions in urban sustainability

1. Envisioning a future sustainable city

Visions play a vital role in efforts to enroll actors in agendas relating to urban sustainability. It is important to study these visions to analyze what issues that are considered crucial in these agendas, how the related goals are to be achieved, and the extent to which they are shared by relevant stakeholders. This paper studies vision making to compare the way in which national and local governmental actors in Norway present issues of urban sustainability, and the extent to which these presentations are aligned.

Williams (2010) stresses that there are two main challenges related to urban sustainability: first, there is the question of what a 'sustainable city' is; second, there is the issue of how one should *do* sustainability in cities. To begin, 'sustainability' is used in many ways, often to characterize efforts to improve environmental, social and/or economic conditions. However, such definitions meet with problems. For example, Campbell (1996) argues that conflicts between these three aspects are unavoidable in what he calls a battle over growth, the environment and social justice. In a different vein, Shove and Walker (2007, p. 766) fear that the concept of sustainability works as a legitimizing discourse, while Skjølsvold (2012, p. 40) shows that terms such as 'sustainable' and 'climate friendly' are relational and consequently negotiable within a given collective. While the sustainability of cities is a frequently shared goal, one cannot take for granted what such a goal means. Consequently, this paper departs from the studied actors' own understanding of sustainability to describe their visions of sustainable cities, and not any scholarly definition. Thus, I analyze the actors' articulation of the main goal – urban sustainability – and how they engage with it.

Much academic research on urban responses to climate change has been concerned with governance. Bulkeley (2015) summarizes some of these efforts. She finds that the main research questions have been why cities should take leadership with respect to climate change adaptation and mitigation, what kinds of actions should be prioritized, who should be responsible, and which institutional factors facilitate or prevent climate change action in city governments (Bulkeley, 2015; see also Hoffmann, 2011). The focus has primarily been on mitigation efforts, but issues of urban resilience, vulnerability and adaptation have also been on the agenda (Bulkeley, 2015, p. 7). Scholarly efforts often articulate so-called multilevel governance contexts. This research has explored interactions extending vertically from transnational organizations to nation states, regions and cities, and horizontally to civil society organizations, businesses and other non-state actors (Bulkeley & Betsill, 2005; Coutard & Rutherford, 2010; Puppim de Oliveira, 2009; Romero Lankao, 2012).

These research efforts promote multilevel governance as a promising framework for the management of urban sustainability. The central idea within this is that efforts are coordinated and aligned between governance actors, presupposing shared visions across multiple levels. This paper critically discusses this assumption by exploring the visions made by national and local (city) actors participating in an urban multilevel governance program called ‘Cities of the Future’ (CoF). It investigates and juxtaposes the visions articulated by the national and city government actors in the program. What visions were expressed, and to what extent were they aligned among the participating stakeholders? In the next section, I discuss previous research on the role of visions in sociotechnical projects, such as efforts intended to develop more sustainable cities.

2. Understanding sociotechnical visions

Envisioning future sustainable cities is a sociotechnical effort in the sense that such visions combine social and technical elements. There are several approaches to explore vision making and the potentially performative aspect of sociotechnical visions, including concepts like trading zones, scenarios, and the sociology of expectations. To begin, Dierkes, Hoffmann and Marz (1996) explain how a vision may give actors who otherwise do not collaborate an opportunity to develop a shared goal and direction. In their opinion, visions may contribute to simplify complicated issues, in this case urban sustainability, and thus make it easier for non-experts to engage in the debate. This directs attention towards the content of the vision, seeing visions as an outcome of some actors’ specific views. According to Dierkes et al., several actors must share a vision if the vision is to be more than an individual idea. In this sense, visions express an already achieved idea or consensus among the actors involved. As such, visions are consensus-building tools that enable actors from different fields and areas of expertise to cooperate (see also Jasanoff, 2015).

Gjøen (2001:31) argues that Dierkes et al.’s understanding of visions as consensus-building is similar to Peter Galison’s (1996) concept of trading zones, and the “work” that trading zones do. He developed the trading zone concept inspired by anthropological studies of how people from different cultures are able to exchange goods, despite differences in language and culture. Galison used the concept to analyze innovation processes in science, focusing on how computer simulations of the hydrogen bomb contributed in assembling and coordinating actors from different disciplines. He defined a trading zone as “an arena in which radically different activities could be *locally*, but not globally, coordinated (1996, p. 119, emphasis in original). Other scholars have picked up the concept, employing it for a variety of purposes. For example, Kellogg et al. (2006) use the concept to explain coordination of cross-boundary work in interactive marketing organizations. Collins et al. (2007)

explore the evolution of trading zones, with a particular emphasis on interactional expertise, and provide some ideal types to explain how trading zones may work. Gorman et al.'s (2004) pilot study on collaboration between a material scientist, a social psychologist and a graduate student explore the societal dimensions of nanotechnology as a trading zone, and the division of labor within this collaborating team. Saporito (2016:45) shows that the trading zone concept has been used by communicative planning theorists to provide practical tools and interpretative framework to guide participatory action (see also Balducci and Mäntysalo, 2013). In this paper, the concept is used to analyze processes of making visions related to urban sustainability.

Visions produced in some kind of trading zone, as defined by Dierkes et al., may be understood primarily as tools to make actors with otherwise different views, expertise, values and interests, to assemble and collaborate. The actor's views may be exchanged but also challenged in a trading zone. As such, the enactment of a trading zone does not necessarily depend on shared ideas, interests, or norms. This makes the concept of trading zone useful in exploring how actors negotiate the objects at stake. Following this line of thought, Gjøen (2001, pp. 31-32) suggests that visions do not have to be consensus-building tools but may rather provide latitude for trading and negotiating ideas about the future. Thus, her use of the trading zone concept points to the *processes of making visions*, rather than seeing visions as outcomes of certain ideas, as suggested by Dierkes et al. (1996). For instance, Gjøen (ibid: 170) finds that the making of visions of future buses running on nature gas did not contribute to consensus about the future transport system. Rather, this vision making contributed in clarifying the actors' perceptions regarding the distribution of responsibilities with respect to this system. This suggests that there may be disagreement as well as consensus about future directions within such vision-making trading zones without disabling decision-making (Gjøen, 2001).

Berkhout (2006) argues that the primary role of visions may be to frame disagreement rather than to generate consensus about the future. The perception of visions as instances of established consensus is therefore a barrier to an understanding of visions as *in the making* (Gjøen, 2001, pp. 31–32). Thus, stakeholders involved in sociotechnical projects do not have to choose between ready-made interpretations of the future. They may contribute by trading interpretations in the making of visions (Gjøen, 2001, p. 309). Accordingly, my analysis focuses particularly on the process of trading visions.

Another useful contribution is Callon's (1987) introduction of 'scenario' to describe the process by which a leading actor tries to mobilize interest in and support of a desired future, and to distribute roles to other actors in this process. Callon emphasizes that scenarios become strategic tools to enrol necessary allies to reach a goal. The so-called 'sociology of expectations' (Borup et al., 2006; Brown

& Michael, 2003; van Lente, 2012) develops this view further by putting forward the idea that visions are performative because they are *wishful enactments of a desired future* (Borup et al., 2006, p. 286). Thus, expectations become important for realizing new sociotechnical options. In this process, expectations attract the interest of necessary or useful allies (such as actors in innovation networks, politicians, investors, users, etc.). Furthermore, expectations define roles and build mutually binding agendas among participating actors, similar to the processes that Callon (1987) sees as part of the work involved with scenarios. In particular, it seems important to have a shared, though flexibly interpreted, cluster of guiding expectations (Borup et al., 2006).

Other features of actor-network theory (ANT) may be helpful for analyzing complex sociotechnical processes, like sustainability city efforts. In particular, Latour's (2005) focus on controversies related to the sociotechnical work of assembling human and non-human elements is useful. Employing this framework, I consider relevant empirical objects as 'actants', like letters of intention, interview statements, bicycle paths, newspaper articles and so forth. Latour uses the term actant to emphasize that human and non-human elements should be treated symmetrically in the analysis of emerging heterogeneous networks. Callon's (1987) emphasis of scenarios and the ensuing strategic enrollment efforts also illuminates how relevant stakeholders may and need to be assembled. However, ANT does not make assumptions about the *outcome* of processes of assembling human and non-human elements. Rather, it suggests how we may analyze such processes by focusing on controversies regarding the efforts of assembling elements. What actors are involved, what kind of controversies emerges, and what elements are party to the assembling process? These questions imply a focus on the evolving controversies and the efforts made to resolve these and achieve stability (Latour, 2005, p. 249). However, the importance of resolving controversies in order to make durable actor-networks has been contested. Singleton and Michael's (1993) study of General Practitioners involved in the UK Cervical Screening Programme illustrated for instance how *ambivalence* towards one's own and others attributed roles in a network may contribute to *reinforce* a network, rather than to threaten it. As such, trading (ambivalent) visions may be ways of un-blackboxing important elements of negotiation involved in urban sustainability work.

It is important to explore vision making as taking place in trading zones to understand the dynamics of complex projects such as urban sustainability and to observe how relevant actors exchange and negotiate ideas about future developments. This includes to study shared as well as controversial views and to assess the multilevel governance perspective by focusing critically on the *interaction* between multilevel actors in cities' sustainability projects. To do so, this paper build on observations of expectations of sociotechnical outcomes of sustainable cities but also analyses the proposed

division of labor among main actors to reach sustainability goals. Moreover, according to Hunt and Watkiss (2011), local governments can mobilize different publics by linking climate change dynamics to local impacts. Bulkeley (2015, p. 7) stresses that citizens may find it easier to establish clear channels of communication with local governments than with regional or national governments. In line with this, the paper also focuses on actors' ideas about how to engage citizens in the development of sustainable cities.

To summarize, the paper will pursue the following research questions: How may 'the sustainable city' be envisioned and negotiated by national and city stakeholders? What assemblages are constructed in the process, and how are roles distributed in them? How are citizens' engagement perceived? To what extent are national and local visions aligned, and with what consequences?

3. Method

This paper juxtaposes and studies the visions of national and local authorities with respect to urban sustainable development through 'Cities of the Future' (CoF) – a program initiated by the Ministry of the Environment to promote sustainable development in Norwegian cities, in particular reducing greenhouse gas emissions. The program ran from 2008 to 2014 and aimed at producing a partnership between four ministries (Climate and Environment; Local Government and Modernisation; Petroleum and Energy; and Transport and Communication), 13 cities, invited industry stakeholders, and the Norwegian Association of Local and Regional Authorities. The agreement underlying the program stated that city governments should be key actors in reducing greenhouse gas emissions, but in close collaboration with national authorities. The program emphasized that success would depend on the participation of citizens. Finally, CoF was organized as five thematic interdisciplinary networks: (1) land use and transportation; (2) stationary energy use in buildings; (3) consumption patterns and waste; (4) climate adaptation; and (5) better urban environment.

CoF reflected the autonomy of local authorities. Norwegian local governments have considerable space for independent decision-making, also with respect to local efforts of sustainable development. This means that national authorities in many areas do not instruct city governments but employ general policy instruments that are open to interpretation. CoF was meant to facilitate learning and innovation in Norwegian cities' sustainability transition efforts. This involved development of visions that could guide national and local initiatives. Moreover, the program name directed attention towards visions and expectations about city futures. Thus, it is an interesting case to explore vision making

with respect to urban sustainability as well as the relationship between the scenarios of national and local authorities.

I have employed a qualitative research design to gain in-depth knowledge of stakeholder accounts to illuminate the issues, using a broad set of sources: interviews with CoF participants; official documents from national and local authorities; shadowing two city planning agencies; and newspaper articles. First, in order to learn about urban development debates in Norway, I collected newspaper articles using the online media base Retriever. Newspapers are widely read in Norway (Østbye, 2008). Thus, they are an important arena of information and debate as well as of the construction and negotiation of visions. I used the term ‘Framtidens byer’ (the Norwegian program name, in English ‘cities of the future’) to search for publications from national, regional and local newspapers between 2007 and 2014. This resulted in more than 500 articles, including letters to the editor and feature articles written by public contributors such as Norwegian politicians, journalists and scientists.

The second source was public documents such as White Paper 34 (2006-2007) ‘Norsk klimapolitikk’ (‘Norwegian Climate Politics’), the National Transport Plan (2010–2019), CoF reports, the CoF website, and the Energy and Climate Action plans of two of the largest participating cities – Bergen and Trondheim. I examined these documents to map the visions made by national but also local stakeholders.

Third, I conducted, in collaboration with Lucia Liste, 25 interviews with administrators and politicians in national, regional and local governments between February 2015 and January 2016. We used a semi-structured guide and interviewed CoF actors from the participating Ministries and the cities. The main topics included participants’ reflections on CoF, including its successes and challenges, what knowledge they had gained, and their experiences of local–national collaboration. City government interviewees came from Oslo, Bergen, Trondheim, Drammen and Bærum. The interviews lasted between one and two hours, and they were recorded and transcribed in verbatim. In this paper, the interviewees have been anonymized.

Fourth, I spent one-month shadowing (Czarniawska, 2007) at two local planning agencies in Bergen and in Trondheim, the second and third largest cities in Norway with 275,000 and 185,000 inhabitants. Both cities have invested substantially in public transport – Bergen in a light rail system and Trondheim in buses and bicycle infrastructure. During the fieldwork, I observed meetings, discussed with planners and participated in on-site inspections. I kept a fieldwork diary, which has served as a backdrop of the analysis and to check findings from other sources.

The analysis was inspired by grounded theory, with an emphasis on coding of and developing categories to make sense of the data (Charmaz, 2006). I developed open analytic codes, then combining similar codes to provide categories (for example, ‘the vulnerable city’ and ‘the green city’). They were further compared and explored by coding pursuing visions of future sustainable cities as well as how relevant actors argued regarding the realization of these visions.

Three topics dominated the discourses about urban sustainability in the newspaper articles: (1) visions of the future sustainable city; (2) the responsibility for fulfilling these visions; and (3) management and mobilization of citizens. I use these topics to organize the analysis into three sections, where I accordingly outline, compare and discuss the visions of national and local stakeholders.

4. National and local stakeholders’ visions of future cities

The Ministry of the Environment initiated the CoF program in 2008. A sequence of Ministers acted as prominent vision-makers, even before the Ministry formally launched the program. We may understand this public vision making as a way of kick-starting the program. A typical example is the following excerpt from a talk given by Helen Bjørnøy, Minister of the Environment in 2007, presenting her city vision for 2020:

“We will walk to our work place and get healthy, filling our lungs with fresh air from the city. There are no cars in the streets, but playing children. The city center has become the grand hall with beautiful buildings, cultural heritage sites and green areas, which make citizens proud of their city.”¹

Bjørnøy focused on car-free cities in the future. Accordingly, the official CoF website² stressed the need to improve public transportation in cities and to restrict car use. In order to develop such green cities, the national authorities proposed a holistic mindset, which should lead to a so-called suitable city planning. An interviewee from the national government explained that they introduced the fifth thematic network, ‘Better urban environment’ with the goal of improving health and well-being in the city:

“In CoF, first we focused a lot on mitigation efforts, but we also have a goal of improving the urban environment, so we have to work with how to shape an attractive city to live in. What I find inspiring is the possibilities of developing win-win solutions, like climate adaptation.

Here, you can design nice aesthetic green areas and parks for citizens, which also help to manage challenges with storm water in the city” (CoF ministry officer).

Overall, the national government envisioned future cities as green and dense as well as attractive and healthy places to live. The visions were general and optimistic. The main strategy proposed to realize them was to use the CoF program as a tool to mobilize local actors to take responsibility for the development of more sustainable cities. The goals concerned cities’ physical qualities, such as their green areas, but not local politics, which was black-boxed. To what extent did the city governments that participated in CoF share these visions?

In the initial phase of CoF, city governments were obliged to produce action plans to articulate concrete, local, climate goals. To do this, they had to translate national climate goals in order to align them with local resources and needs in proposed projects. In addition, the plans had to be politically embedded and adopted by the city administration. Thus, the action plans reflected their interpretation of the overall aims and visions addressed in the national documents. The cities expressed similar general concerns regarding climate change mitigation and densification efforts. Further, they agreed about the importance of knowledge and learning and the need for collaboration between administrative levels. Typically, the plans addressed the five main topics highlighted by CoF national management (land use and transportation, stationary energy use in buildings, consumption patterns and waste, climate adaptation, and better urban environment). However, each action plan also addressed other issues that the respective cities considered important. For example, Bergen’s action plan stated that:

“The long-term goal of Bergen is to become a climate neutral city. Bergen wants a sustainable, safe and efficient transportation system, with interplay between historical structures, heritage sites and shared features.”³

Clearly, working towards climate neutrality and sustainable public transportation was in line with national visions. However, Bergen faced controversy relating to the clash between the cost-efficiency of its transportation system and the protection of the city’s heritage sites. The action plan reflected this. It exemplifies how local governments and planners had to deal with greater complexity and controversy than originally envisioned by national documents and stakeholders.

The CoF program provided 1 million NOK (approximately 107 000 Euros) to each participating city every year during the program period. The cities could also apply for additional funding for specific

projects, in total 12 million NOK (approximately 1,3 million Euros) every year, to be distributed among the 13 participating cities. The cities should contribute at least the same amount of money as provided by the national government. Rambøll Management Consulting was hired to do a running evaluation during the program period. They concluded that the funding opportunities were relatively modest (Rambøll, 2015, pp. 5-7). Rather, they emphasized the importance of CoF as *facilitating* cities' sustainable development efforts (ibid). In general, the interviewed city planners argued that the funding provided by the national government to urban development projects to be insufficient. For example, a bicycle planner in Trondheim stressed the importance of maintaining bicycle infrastructure and considered such maintenance an indispensable part of a sustainable city. National stakeholders were willing to help fund the construction but not the maintenance of such infrastructure. In such ways, national and local actors understood the challenges of sustainable transport differently. Another example was provided by a regional politician who claimed that the national government did not really comprehend the operation of public transport:

“National politicians believe it is possible to actually profit from the operation of buses. However, such operation involves immense costs for the county. We have tried to convince the Ministry of Transport to see the complexities of public transportation operation, but there is a lack of understanding” (Regional politician).

Table 1 briefly summarizes main content of the national and the local visions of the future sustainable city. Overall, national and local actors shared the main, general objectives. However, when these goals were translated to fit the local context to guide local action, this produced differences. The interviews showed that city actors felt they had to deal with complex and partly conflicting issues in the process of translating goals into plans and projects, issues that the national visions overlooked. Consequently, local visions tended to be more reticent than those of national actors, like we see in Table 1. It juxtaposes a straightforward national vision and a more complex vision assemblage of the city actors. Above all, the difference is due to local actors being more concerned than national actors about the realization of the visions. Did this also lead to diverging views regarding the distribution of ensuing tasks and responsibilities between national and local actors?

Table 1 about here

5. National and local actors' view of the distribution of tasks and responsibilities

A main goal of the CoF program was to instigate a *dialogue* between national and local authorities. There was an expectation that CoF participants should meet regularly to discuss challenges, share experiences and develop new policies, knowledge and methods. The Letters of Intent,⁴ which all participating cities had to sign, articulated this mode of working. This mandatory (and symbolic) signing of the agreement represented an important governance tool:

“In previous urban development projects, we learned that both Ministries and cities had to commit in order to accomplish what we wanted. If not, there would be nice words, but no action. So, when we got both the cities and the Ministries on board, then we started to believe in this program” (CoF ministry officer).

The quote suggests that national stakeholders considered collaboration between national and local actors to be important. However, several prominent national politicians argued in newspaper articles in favor of greater local responsibility in urban development. According to them, urban policy-making should mainly be a city government concern.⁵ Local actors protested this view. In an open letter to the Prime Minister,⁶ two city mayors involved in CoF complained that local governments faced many difficult issues related to urban sustainability. They claimed that cities were unable to deal with such issues on their own, like challenges related to the existing legal framework of urban sustainability efforts. For example, the mayors argued that city governments needed a statutory authority to impose parking restrictions and more generally that they lacked the legal means to reduce local car traffic.

Several interviewees expressed similar views. A planner in Trondheim requested stronger national intervention in city infrastructure planning, including an update of regulatory frameworks. Interestingly, national and local actors interpreted the present legal framework differently. For example, the central government considered the Plan and Building Act as an effective tool for local administrations to protect green areas and design high quality densification.⁷ However, some interviewees challenged this. A county mayor argued that:

“There is a clear mismatch between the pleasant rhetoric from national politicians about the importance of high quality densification on the one hand, and what the legal framework enables us to do through the Plan and Building Act, on the other. This Act makes requirements regarding outdoor spaces, parking norms – everything we do!

National governments must change this. It is very frustrating to have these great visions of future sustainable cities, and a legal framework, which does not support it.”

National government representatives argued that the Plan and Building Act enabled city governments to reach sustainability goals. The quote represents widespread perception among local actors that the Act constrained their ability to act.

As mentioned, allocation of money from national to local governments was an essential part of the CoF program. Some funding was available to the participating cities to support action plans and projects. However, they had to apply. The Minister of the Environment presented a main criterion in an interview in 2008:

“[C]ities that make good action plans and also dare to use unpopular, but necessary, measures will be rewarded.”⁸

Cities that were innovative and radical should gain from economic and symbolic incentives. According to the Minister, cities proposing ambitious environmental instruments would receive positive attention from the media and politicians. Without such goals, city governments should expect to lose money and reputation and, eventually, voters supporting the governing political parties.⁹ However, this strategy met with skepticism from several local and regional stakeholders. For example, the county mayor quoted above said that she feared such measures would lead to unfortunate competition between cities.

Thus, we observe that national and local actors disagreed about the distribution of responsibility regarding the realization of the visions and the appropriate governance tools. National actors expressed considerable optimism about city governments’ ability to improve the sustainability efforts of their urban planning. In this sense, the national government gave the participating city governments the main responsibility for implementing sustainability measures, using better reputation and funding to entice them to take on this role. Of course, considering the discourse of cities as key intervention sites of sustainability, this effort was not surprising. However, a more interesting finding was the way in which city representatives tried to redistribute responsibility back to national actors. City representatives made efforts of re-assembling accountability to enroll national government actors to share a more complex and concern-oriented vision of urban sustainability. As noted, city government actors said that they experienced legal challenges as well as unfortunate competition between cities

through the funding system of CoF. They wanted the national government to engage much more actively in resolving these issues.

Table 2 provides an overview of national and city government actors' visions of the distribution of responsibility with regard to making future cities become sustainable. The difference is clear-cut. The national government actors presented city governments as the main actors of urban sustainability transitions, seeing their own role mainly as providing some funding. With respect to other policy measures, they argued that the cities already had the tools they needed at their disposal. City government actors contested this latter claim. They argued that the national government should take a more active and comprehensive role.

Table 2 about here

The perception of the process of implementing urban sustainability efforts seems to have produced the differences observed in Tables 1 and 2. National actors argued that implementation should be a straightforward issue, while city actors were concerned about complexities and challenges. As we shall see in the next section, these disagreements also emerged from the perceived engagement of citizens.

6. Envisioning the role of citizens: supporting or resisting urban sustainability?

National government actors acknowledged the importance of enrolling citizens as part of sustainability transitions. However, they tended to believe that their visions of future sustainable cities would be attractive to the public. For example, a CoF manager in the national government stressed the importance of developing what he called 'human cities', and explained these as cities constructed with respect to the wellbeing of citizens. This was in line with the previously quoted vision of the former Minister of the Environment about 'car-free streets full of playing children'.

The CoF management funded three surveys to learn more about the views of citizens. These were questionnaires conducted in 2010, 2012 and 2014, and asked citizens about their expectations regarding governmental efforts to achieve urban sustainability. Based on the results of the first survey, a large regional newspaper wrote that 'Norwegian people dream about green cities'.¹⁰ According to the article, citizens wanted their local government to facilitate an environmentally friendly lifestyle. Were citizens seen as prepared to make efforts to reach such goals? Several national governmental interviewees stressed the importance of educating citizens to raise awareness of environmental issues.

However, a CoF manager employed by the Ministry of Local Government and Modernisation expected citizens' *attitudes* to be a greater challenge than their lack of knowledge. According to him, people in Norway were aware of climate change issues. The challenge was to get them to change their practices. He also argued that laws could be efficient tools forcing citizens to change their practices:

“A great example is the effect of the Tobacco Act in Norway. While many were highly skeptical of this Act in the beginning, attitudes towards smoking changed after a while because of forced change of practices. I think this also applies to for instance a ban of private cars in city centers. I guess that first, there will be a lot of protests, but after a while people will adjust to the fact that they cannot drive in the city anymore” (CoF Ministry Officer).

Some interviewees in the national government wanted to educate citizens while others proposed to introduce new standards and regulations. Yet others argued that mobilizing citizens mainly was a local government responsibility. This line of thought echoes Bulkeley's assertion (2015, p. 7) that citizens may find it easier to establish clear channels of communication with local than with regional or national governments. How did city government actors respond to this?

Some city representatives used legal options to change citizen practices. For example, a CoF city representative decided to shut down parking spots in the city center and justified this by arguing that citizens would eventually appreciate the idea.¹¹ A city planner presented a similar view, emphasizing that a mix of education and governmental coercion strategies was a successful recipe for changing citizen practices. Such forms of top-down governance echo what we heard from national government actors. However, some projects expected citizens to initiate projects on their own, without governmental instigation. An example was a city government initiative aimed at reducing CO₂ emissions by facilitating low-emission household practices. This encouraged citizens to inspire each other to engage with new practices by ‘spreading the happy message about the green lifestyle to friends and family’.¹²

Overall, the city government actors tended to articulate a more complex relationship with citizens than the national stakeholders. Despite the advice given through CoF of keeping an open dialogue about climate change issues with citizens,¹³ the interviewed planners told that they did not find the time or resources to consult directly with citizens. One city government employee stressed that citizens would likely perceive efforts of changing their practices to become more sustainable as an additional burden in their busy daily life. However, another city representative working with climate

adaptation pointed out that city governments could communicate with citizens about these issues indirectly:

“I think there is a strong communicative effect of climate adaptation measures. When citizens see that their local community is gearing up towards extreme weather, like building flood embankments, this gives strong signals about future challenges, such as sea level rise. We should not underestimate the communicative effect of this” (City government employee).

Table 3 summarizes the findings regarding the envisioning of citizens and their role in sustainable urban transitions. National government actors expected citizens to adapt through a combination of information and legal measures; considering citizens as predictable – or at least quite malleable. These actors considered it as a manageable task to enroll citizens in urban sustainability efforts when the right measures were used. To some extent, city government actors agreed that citizens would act in accordance with standards and regulations. Still, they expected citizens to engage in bottom-up initiatives. Thus, city government actors were concerned about public indifference, resistance or protest. They argued that the public could be critical towards sustainability initiatives, considering their actions difficult to predict.

Table 3 about here

7. Diverging visions between national and local city actors

The strong interest in cities as transition actors is rooted in a perception that city governments are best suited to enact national goals of sustainable urban development. Since local governments in Norway have considerable autonomy in their decision-making, it would definitively be helpful if national and local actors shared visions and goals, not least the conditions for realizing them. This paper set out to analyze how national and local (city) stakeholders envisioned and negotiated ‘the sustainable city’ and what kind of assemblages they constructed in the process. Table 4 summarizes the main findings by combining Tables 1-3. What we see are two visions where important aspects were shared but also with noticeable differences overall. I call them ‘the attractive city’ and ‘the complex city’, respectively.

Table 4 about here

‘The attractive city’ assemblage was a vision constructed by national government actors and re-assembled through newspaper articles, documents, and interviews. Its main constituents were ideas about pleasant features of future sustainable city life and beliefs that a holistic city planning would help realize this. Such holistic planning would consider every important aspect, such as reducing local pollution, improving citizens’ health, providing green areas and facilitating efficient public transportation, expecting that these would mutually reinforce each other in a seemingly harmonious fashion. National governments delegated the main responsibility for fulfilling this vision to city governments, which they assumed to be sufficiently empowered to implement necessary changes. Included in this vision was the view that citizens would become environmentally friendly through appropriate measures like education, information, incentives, and legal instruments.

‘The complex city’ assemblage was a vision mainly constructed by city actors (including regional stakeholders) and re-assembled from the same sources as ‘the attractive city’. It comprised mainly the same general sustainability goals but included more elements of concern, like the complexities of urban planning and the implementation difficulties emerging from the translation of general aims into local action. For example, how to balance densification efforts with protection of heritage sites? While citizens in general were represented as supporters of urban sustainability measures, they were also considered to be in constant need of negotiation and persuasion. Potentially, citizens could be indifferent to or protesting proposed initiatives.

Clearly, there was dis-alignment of visions between national and local stakeholders but this was not seen as a critical problem. The CoF program was kept running during the intended program period from 2008 to 2014, and overall, the evaluation was positive (Rambøll Management Consulting, 2015). Many interviewees from national and local governments agreed that it was a success. A CoF manager employed by the Ministry of the Environment provided an example:

“The CoF program improved the internal collaboration in the local administration in the city of Tromsø. Through the climate adaptation network [set up through CoF], people from different city agencies got the opportunity to meet and to know each other’s work. Actually, many cities in CoF reported such outcomes – that the program stimulated an interdisciplinary and inter-sectorial collaboration within the city administration.”

A city representative in CoF noted that the program had provided new knowledge:

“CoF has contributed to improve the knowledge of how climate change may affect cities. We started from scratch in the climate adaptation network, and the 13 participating cities are now more aware what climate adaptation means. They have started to implement this in regulatory frameworks and strategies, as well as some specific projects.”

These quotes illustrate that the CoF program provided constructive contributions to urban sustainable development. This was above all in terms of learning, with respect to improved horizontal collaboration among the participating cities. However, the program did also contribute by means of more “hands-on” projects, described in the final evaluation report by Rambøll Management Consulting (2015, pp. 28-29). For instance, the program developed systems to quantify the effects of projects aiming to reduce climate gas emissions in the municipalities. Moreover, the CoF program developed methods to map flooding roads in cities and to visualize crisis scenarios of future sea level rise. As mentioned, all participating cities in CoF had to develop an Energy and Climate Action plan to clarify local goals and measures, and these plans worked as important outputs of the program to steer the project development. In the end, the CoF program contributed to the development of more than 300 exemplary projects that covered all the five thematic networks of the program. These projects have been included in an online database, which is open to the public.¹⁴

8. Conclusion: Making visions work – vision making as trading zones

This paper has investigated visions of the sustainable city of the future among national and local stakeholders in the Cities of the Future (CoF) program. I asked to what extent there were alignment of visions among relevant stakeholders, what assemblages they constructed in the process, how they distributed roles in the resulting assemblages, and how they perceived citizens. I identified two assemblages: ‘the attractive city’ and ‘the complex city’. By juxtaposing the assemblages, I have identified diverging aspects of these visions about future sustainable cities among national and local actors. While the desired, general sociotechnical outcomes were similar, they disagreed about how to achieve these outcomes and about the role of citizens. Perhaps the most pressing controversy was about the distribution of responsibility for urban sustainability. National government actors argued that city governments should be in the driver’s seat, while the city actors demanded greater effort and commitment from the national government. This finding questions the prevailing view in the research literature stressing the need for alignment between government levels to achieve urban sustainability. As shown, CoF was not a failure because the program provided a space for horizontal learning among

the participating cities as well as an opportunity to get funding for urban sustainability initiatives. This made the lack of alignment a lesser concern.

According to Latour (2005), it is important to resolve controversies in order to achieve stability and ensure further action. This did not happen between the governance levels in CoF, but the participants still, as I have shown, considered the program as successful. This finding is in line with Singleton and Michael (1993) and suggests that ambivalence may contribute to the construction and continuation of actor-networks. Following Gjøen (2001), this further suggests that the process of vision *making* is more important than the actual content of the visions. The vision making encouraged city governments to engage more strongly with urban sustainability issues. In addition, city actors found this process to provide a space for learning and negotiating about local enactment of environmental concerns. The vision making thus enabled a kind of trading zone where the participants could exchange problems, solutions, and expectations. This made national government actors into backstage performers, probably to a larger extent than they had anticipated. The main outcome of CoF was the construction of horizontal networks among the city participants where visions were developed and debated. These networks facilitated the exchange of concerns, knowledge and experience that the city government actors experienced as very useful.

As noted, the analysis in this paper emphasizes the importance of being cautious about the need to have fully shared visions across levels of government when working to realize large sociotechnical projects like urban sustainability. Still, the lack of alignment shown in Table 4 is a concern. The CoF experience shows that dis-aligned visions may co-exist with efforts to improve urban sustainability. However, some controversies need to be resolved in future urban sustainability projects. In particular, the different perceptions of the effectiveness of available legal provisions should be worrisome to national government actors because they may inhibit necessary local action. Here, the interpretation of national government actors may be correct, but that does not help if city governments have a different view. In this sense, vision making should be an ongoing process where negotiations, e.g., with respect to the effectiveness of the existing legal framework, need to be continued. It might have been a weakness of the CoF program that the horizontal networks became too dominant, sidetracking the exchange between national and local actors. Although it was important for the participating cities to learn from each other, they still wanted more involvement from national governmental actors. Thus, the claim of the research on multi-level governance regarding the importance of alignment may be important in the long run.

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Tables

Table 1: Main understanding of the concept of a sustainable city in the visions

Vision maker	Actants that are part of the vision assemblage	Main objectives in the vision of the sustainable city
National government actors	National politicians and administrators Letter of Intent CoF program and website Newspaper articles	Sustainable cities will be low-emission and attractive places to live. They are to be green, clean and beautiful.
City government actors	Local and regional politicians and administration Planners Transport infrastructure Newspaper articles	Ideally, future cities are to become dense, green and energy efficient, with environmentally friendly transportation and facilitating cycling and walking. However, city planning is complex and challenging, often with conflicting interests and concerns.

Table 2: Perceived distribution of responsibility in the making of visions

Vision maker	Actants that were part of the vision assemblage	Perceived distribution of responsibility in the vision of future sustainable cities
National government actors	National politicians and administrators Letter of Intent The Plan and Building Act Funding system Newspaper articles	Local knowledge and responsibility is very important, and local governments should have the main responsibility for implementing urban sustainability goals. They have the best tools to do so. However, the national government will contribute funding.
City government actors	Local and regional politicians, administrators and planners Public transportation Letter of Intent The Plan and Building Act Funding system Newspaper articles	Urban sustainability should not be the responsibility only of local governments. There is a need for national guidelines, updated regulatory frameworks, allocation of more resources, and a stronger will to collaborate from national government actors.

Table 3: Perceptions of citizens

Vision maker	Actants that were part of the citizen assemblage	Perceptions of citizens
National government actors	National politicians and administrators National regulatory frameworks/laws The Tobacco Act Newspaper articles	Citizens will adapt in line with education, information, laws and regulations. They are predictable. It is mainly up to local governments to enroll and educate citizens.
City government actors	Local and regional politicians, administrators and planners Concrete projects Newspaper articles	Citizens may respond positively to national legal changes and initiate projects bottom-up. However, enrolling citizens may be challenging because citizens are unpredictable and may resist changes.

Table 4: Vision makers, assemblages and visions of sustainable cities, responsibilities and citizens

Vision maker	Assemblage	Visions of the sustainable city	The distribution of responsibilities in the vision	Perceptions of citizens
National government actors	The attractive city	Future cities are 'human'. They are green, clean and beautiful, and their sustainability can be achieved through holistic planning	City governments should have the main responsibility for sustainable urban development. They are best suited and have the tools they need to achieve change	Citizens will adapt when exposed to education, information, and new standards and regulations. They are predictable. City governments should be able to enroll and educate citizens
City government actors	The complex city	Future cities are ideally dense and energy efficient, with sustainable transportation. But city planning is complex, and the proposed actions are often controversial	Urban sustainable development should not be singularly a local responsibility. There is a need for national guidelines, update of regulatory frameworks, allocation of more resources and more collaboration between national and local stakeholders	Citizens might respond positively to national legal regulations and initiate local projects. However, enrolling citizens may be challenging because they may unpredictably resist changes

Notes

¹ Vestheim, T. M. F., & Sømme, A. (25.05.2007). Slik blir framtidens miljøbyer (This is how the future sustainable cities are going to be). *Dagsavisen*.

² Cities of the Future website: <https://www.regjeringen.no/en/topics/municipalities-and-regions/by--og-stedsutvikling/framtidensbyer/cities-of-the-future/id548028/>.

³ Bergen kommunes handlingsplan. (2008). *Framtidens byer. Byer med lavest mulig klimagassutslipp og godt bymiljø*. Bergen kommune.

⁴ Norwegian Ministry of Climate and Environment et al. (2009) Letter of intent. Oslo, Norway. https://www.regjeringen.no/globalassets/upload/subnettsteder/framtidens_byer/moter/avtale_naeringslivet_underskrevet.pdf. Last accessed 06.04.16.

⁵ Roux, E. (18.06.2008). Statlig pengedryss til miljøflinke byer (National funding to environmentally friendly cities). *Stavanger Aftenblad*; Sanner, J. T., & Sundtoft, T. (21.10.2014). Uenighet må løses tidligere (Disagreement has to be solved early). *Aftenposten*; Vestheim, T. M. F., & Sømme, A. (25.05.2007). Slik blir framtidens miljøbyer. (This is how the future sustainable cities are going to be). *Dagsavisen*.

⁶ Ravn, L. (08.06.2012). Miljøanklager fra ordførere. (Environmental accusations from local mayors). *Telemarksavisa*.

⁷ Solheim. (22.01.2009) Grønne lunder under press. (Green lungs under pressure). *Aftenposten*.

⁸ Roux, E. (18.06.2008) Statlig pengedryss til miljøflinke byer. (National money-sprinkling to environmentally friendly cities). *Stavanger Aftenblad*.

⁹ See note 8.

¹⁰ Weisser, A. (18.03.2010) Alle vil ha grønn by. (Everybody wants a green city). *Adresseavisen*.

¹¹ Refvem, F., & Lien, S. U. (31.03.2011). Nå blir Nytorget bilfritt. ('Nytorget' becomes car free). *Stavanger Aftenblad*.

¹² Moi, H. (15.05.2013). Snakk med naboen og dyrk salat i hagen. (Talk with your neighbor and grow salad in the backyard). *Stavanger Aftenblad*

¹³ Bache, K. (02.03.2013). 10 bud for god byutvikling. (10 commandments for a good urban development). *Østlandsposten*.

¹⁴ See <http://forbildeprosjekter.no/framtidens-byer1?page=0> (in Norwegian)