

Planning to transform

Exploring the role of climate and energy action plans in municipal low-carbon transformation

Stina Ellevseth Oseland

Thesis for the degree of Philosophiae Doctor (PhD)
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Scientific environment

This study was conducted at the Department of Geography of the Faculty of Social Sciences at the University of Bergen. I have been a member of the Spaces of Climate and Energy Laboratory (SpaceLab) research collective, and since 2017 I had my workspace at the Centre for Climate and Energy Transformations (CET). Parts of the funding for fieldwork was granted by the Meltzer Foundation.

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Now, let's go out there and transform our societies!

Abstract

The point of departure of the present thesis is to understand local efforts towards low-carbon societies from the point of view of municipalities. Both the theoretical and empirical focus is placed on the municipality as an actor of change, exploring possibilities and constraints to transformation at the local level. Cities are increasingly put forward as key actors in efforts to combat human made climate changes, both in terms of mitigation and adaptation. A majority of emissions stem from activities, consumption and production in cities, and half the world's population reside in cities and the number is increasing. However, cities, as municipal entities are part of governance hierarchies, each are unique in their materiality, political, social, historical and cultural contexts – in other words: their possibilities, constraints and willingness to transform into low-carbon societies vary greatly. Within this multifaceted scenery of municipal planning and politics, cities have become the most ambitious actors in climate change governance. In municipalities, the main tool to steer and influence the future is planning, and climate change has entered the planning realm.

The main research question in this PhD project is: What role does a climate and energy action plan play in municipal transformation to a low-carbon society?

In the Norwegian context it is obligatory to make a Climate and Energy Action Plans (CAP) (or incorporate climate change in the social element of the master plan), and these CAPs have developed very differently in the many municipalities of the country. The place of CAPs in the planning hierarchy, and how these plans are made, revised and implemented vary greatly. In this thesis my aim is to examine the role of these CAPs in the municipal efforts to transform societies.

The process of revising and passing the CAP in three Norwegian cities are studied, through extensive fieldwork. Participant observation, field conversations, document analysis, interviews and media coverage make up the core of the empirical data. The study is inspired by situational analysis and grounded theory, and the idea of analysis starting as soon as data production starts has been guiding.

Some key nodes of particular interest are identified: a) the need for and the work to break institutional silos inhibiting effective climate governance; b) the particular importance of place-based context in shaping what is conceived as possible and desirable; c) the many conflicting goals, stemming from lock-ins, scalar differences in priorities, sectoral divisions, discourses and different material interests.

The thesis is article-based, and consists of three papers and an introduction. The papers comprise a study of the planning process and political decision making of local CAPs.

In paper #1, *Breaking silos: can cities break down institutional barriers in climate planning?* I discuss how planning processes to make CAPs can have silo-breaking effects in a municipality. By examining the processes of two municipalities, Bergen and Trondheim, I find that three factors are particularly relevant to overcome institutional barriers: political will, a broad process involving a multitude of municipal actors and sectors, and institutional entrepreneurs.

Paper #2, *Lifting the fog of oil? Exploring the framing of ambitious local climate politics in an oil city*, examines the political debate over the goals in the new CAP for Stavanger, the so-called oil capital in Norway. The analysis of the political debates over the CAP in Stavanger shows how local context; i.e., history, economy, culture, social aspects, shapes the possibilities and constraints for local climate policy and politics. It also demonstrates how actor's scalar understanding of the issue at hand, climate change, entails very different understandings of the opportunities for transformation at the city level.

The third paper, *Displacing Conflicting Goals in Planning for Sustainability? Insights from Three Norwegian Cities*, explores the role of conflicting goals in local climate governance, particularly how municipalities handle conflicting goals in practice. Three types of strategies of displacement are identified: Temporal – this will be solved sometime in the future; sectorial – to solve this problem pertains to a different sector; and scalar – this must be solved/dealt with at a different scale. We

argue that the conflicting goals are both the result of and maintained by divergent knowledge, institutions and material structures.

List of Publications

Oseland, S. E. (2019). Breaking silos: can cities break down institutional barriers in climate planning? *Journal of Environmental Policy & Planning*, 21(4), 345-357.

Oseland, S. E. (in press, accepted 16 December 2021) Lifting the fog of oil? Exploring the framing of ambitious local climate politics in an oil city. *Geografiska Annaler: Series B*

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Table 1: Overview of the papers

Paper	Title	Case cities	Objectives	Empirical basis
1	Breaking silos: can cities break down institutional barriers in climate planning?	Bergen and Trondheim	To examine how the process of revising the CAPs has the potential to ameliorate the implementation phase	Interviews, Observation, Document analysis
2	Lifting the fog of oil? Exploring the framing of ambitious local climate politics in an oil city.	Stavanger	To explore the role and use of context in political debate and framing over ambitious climate policy making	Interviews, Observation, Media analysis (op. eds., public debates and newspaper articles), reports and statements
3	Displacing conflicting goals in planning for sustainability? Insights from three Norwegian cities	Stavanger, Trondheim and Bergen	To examine how the conflicting goals are handled in practice. Show how the conflicts are handled through strategies of temporal, scalar and sectorial displacement.	Documents, interviews, observation, media analysis (newspaper and web articles, public radio debate, op. eds.)

Abbreviations

CAP – climate and energy action plans. Includes climate strategies, climate and environmental plans.

GHG emissions – global

PBA – Plan and Building Act of 2008

ZGG is the national zero-growth goal, implying that the growth in passenger traffic in urban areas shall be covered by public transport, walking and cycling.

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1. Introduction

“It is really challenging to sit quite far down the hierarchy and make a plan to change society.”

One of my informants made this observation during an interview. In many ways, this statement sums up my curiosity and entrance to this project: that is, is it possible to profoundly change society through municipal planning in light of the urgency of global climate change? Paraphrasing Heather Campbell (2006), is the issue of climate change too big for municipal planning? However, the local level is where everything is connected to everything else (Pasquini & Shearing, 2014). It is where the materiality of the place influences how we move, how we work, how we produce and how we consume, which all contribute to the broad array of greenhouse gas (GHG) emissions. Therefore, the local level is a key site for understanding and influencing emissions to be able to adapt to the inevitable changes ahead. Amundsen and colleagues (2018) point to the dual roles of local governments in “societal transformation: to transform within their own organization, and to act as catalyst for transformation locally” (p. 23).

I started out with some questions, hypotheses and preconceptions within this broad frame of inquiry. Along the line, several questions were added, while others faded away. However, some of these questions continued to shape my curiosity and the development of the research project: what does a transformation entail? Particularly at the local level and within the institution of local governance? How can we examine transformation as a local phenomenon? If planning is the municipality’s main tool to influence and shape society and the future, how can we understand the institution of municipal planning within the scenario of messy climate change and as a means of trying to accomplish transformation? What does it mean to plan for a future when the future has a highly uncertain outlook? How can the processes of making those plans contribute to transformation? Or are planning and its institutional settings and capacities not suited for transformation? How can planning be seen as a means of

achieving transformation? What processes and local functions work together and against transformation? How can we research this issue? Where do we look?

The focus in this thesis is on climate change as a matter for planning at the municipal level and particularly, the role of climate and energy action plans (CAPs) in the municipal planning hierarchy. These plans have different statuses in different regimes. In some countries, making and implementing CAPs is entirely voluntary. In the Norwegian context, the 2008 Plan and Building Act (henceforth PBA) made climate change planning compulsory for all municipalities, either as a CAP or as a separate chapter or feature in the social element of the municipal master plan, to be revised every four years. The first-generation CAPs in Norway were to a large extent created by consultants and later left to sit on municipal shelves.

In the research literature, several factors are put forward as particularly relevant to understand the opportunities and constraints in local climate governance: political will (Uittenbroek, Janssen-Jansen, Spit, Salet, & Runhaar, 2014), the siloed structure of municipal (and regional and national) bureaucracy (Burch, 2010a), national structures (Kasa, Leiren, & Khan, 2012; Kasa, Westskog, & Rose, 2018), institutional entrepreneurs (Burch, 2010b; Kasa et al., 2012), local context (Burch, Shaw, Dale, & Robinson, 2014; Wang, Westskog, Selvig, Amundsen, & Mygland, 2018), citizens' preferences (Millard-Ball, 2012, 2013), national and international networks (Burch et al., 2014; Grandin & Haarstad, 2021; Pasquini & Shearing, 2014), municipal path dependencies (Burch, 2010b) and material and economic lock-ins (Loorbach, 2020; Wang et al., 2018). Newell (2015) argues that both research and policy debate on transformations to low-carbon societies have “focused more on the governance of transitions than the politics of transformations” (p. 69). However, the political will to transform and its expressions is central, and can be studied for example through examining how the political actors frame their arguments and understandings (Rein & Schön, 1993; Øksenholt & Tennøy, 2018). In my PhD work, I explore the planning processes both as an issue of governance and politics, and of the space *in-between* (Allen, 2004).

A central concept or idea from the beginning was that of investigating the *implementation gap* (Parker & Doak, 2012), that is, the difference between the goals and what is actually accomplished and put into life. However, in the process of mapping key findings from my work, I have realized that it *might* not be an implementation gap that we see, particularly not in the highly ambitious, motivated and hands-on municipalities. Instead, the difference between the goals and actual achievements, particularly considering the main goal of CO₂ reduction, could just be a matter of all the other policies, plans, political and economic decisions being passed and implemented at different scales, which consequently move society and emissions in opposite directions. Hence, the proposed goals are *conflicting goals*. While the CAP might be implemented fully, the reductions do not reach the hoped and planned for levels. This is not a surprising finding; however, it is a relevant angle to understand the implementation of local climate planning and politics. Is there will to prioritise climate policies *at the expense* of other areas? For example, in their mobility studies, Tønnesen and Nyseth (2017) explored whether walking, cycling and public transportation networks are prioritized at the cost of road expansions or considered in addition to them. Therefore, long-term sustainable mobility patterns must become the priority.

The implementation of climate measures does not happen in a vacuum. The socio-historical contexts, other plans and planning hierarchies, actors, financial situations, political regimes and the general notion of climate as a topic for local governance all have explanatory power when looking at whether or not cities are able to reduce their CO₂ emissions and become low-carbon societies. Loorbach (2020) describes this as lock-ins and says that at the national and international scale, “rationally and macro-politically there is now a commitment to limit climate change, but everyday practices and business as usual persistently continue along the pathway of unsustainability” (p. 433).

In the present work, I use three Norwegian municipalities’ processes of revising their CAPs as cases to understand the role of CAPs in municipal climate transformation. Planning hierarchies are multifaceted and involve both land-use plans, overarching

master plans and strategic thematic plans. Different plans, sectors and departments have different responsibilities, both in terms of thematic focus and what laws and acts they uphold, if any. These differences lead to different ways of working and different tools. Considering climate as a matter for municipal work, there are two main ways of working discussed in the literature: project-based work or governance experiments (Castán Broto & Bulkeley, 2013a, 2013b; Grandin & Sareen, 2020) and long-term strategic planning (Rydin, 2011). As became clear during fieldwork and the analytical stages, these two strands do not always communicate effortlessly because of the differences in their tools at hand. However, both play important parts in municipal climate planning and efforts, as this work is both about experiments and pilot projects, and about institutionalisation and (changing) structures.

Several knowledge gaps about climate change at the local level are identified in chapter 12 of the fifth International Panel on Climate Change (IPCC) report, “Human settlements, infrastructure and spatial planning”. The report highlights the lack of evaluations of urban CAPs and points to the limited sectoral co-ordination. It also highlights a “lack of scientific understanding of how cities can prioritize climate change mitigation strategies, local actions, investments, and policy responses that are locally relevant” (Seto et al., 2014, p. 978). The main focus in this PhD project is related to how a planning process can be seen as an arena for change. This examination of how cities work to overcome the sectorial boundaries opens up a discussion of the role and obstacles constituted by conflicting goals. The critical examination of their components enriches our understanding of how local contexts both shape what is possible and how contextual particularities can be mobilized to push forward transformation. My small contribution to the literature expands the knowledge of the role and possibilities of the local level within the transformation of cities into low-carbon societies.

1.1 Research design and research questions

With the insights from the initial literature reviews discussed above, a research design was developed to study the particularities and commonalities of local efforts of

climate transformations. I aimed to understand not just the planning process, nor the political process, but both in combination. Here I was inspired by Flyvbjerg's (1992) reflections on studying politics and planning not as *either-or* but *both-and*. As he explains it:

“what would happen, if, for example, one does not only study planning and politics as ideas, intentions and formal politics (...) ‘*the unreal reality*’ (...) Not just as plan, but also as implementation? And, what would happen if one placed the two sides in each pair of concepts in with one another in a non-dualistic way, that is not as *either-or*, but as *both-and* (...) What image of planning and politics would one then accomplish? And how would it fit with other images?” (Flyvbjerg, 1992, p. 19, my translation).

Therefore, I interview both planners and politicians, observe in working group meetings, and observe and transcribe city council discussions and the passing of the CAPs, and revise both the previous and the new documents. And I also trace the conflicting goals – looking at processes and decision making where the CAPs and their goals could make a difference.

Adding to this, I wanted to examine this landscape in different but similar locations, to see what could be learnt and understood by finding similarities and differences (Robinson, 2016), a sort of relational comparison (Ward, 2010) (further discussions on the relational understanding and case study, see section 3.1 and 3.5). I decided to move forward with three case cities. My motivation was that learning through these three cases, I would better understand the variety of factors influencing and constituting the possibilities and constraints of urban climate transformation (for more details on the reflections on which cities to study, see section 1.3).

To achieve this study spanning both planning and politics, I needed to use multiple methods. Examining political discourse and the many small decisions in the planning process of what to bring into the plan and how, requires different approaches. Hence, the methods include semi-structured interviews, observation, document analysis, field

conversations and media analysis (see chapter 3 for thorough reflections on methodology, and particularly section 3.2 for details on the data productions).

Further, I was inspired by situational analysis, introduced to me by a colleague. I realized this was a good way of systematizing data and insights, both during data collection and in the analytical stages of the process (see sections 3.4 and 3.5 for further discussions on situational analysis and how I used this mapping). Some key concepts and challenges were identified, and the resulting articles are structured as presented in figure 5.

All three papers include data from multiple data sources, they explore different theoretical realms and they present multiple perspectives to understand efforts of local climate transformation, surging from the research questions of the thesis.

The overarching research question of this thesis is:

What role does a climate and energy action plan play in municipal transformation to a low-carbon society?

I used three secondary questions to operationalize the main research question:

- How can planning processes contribute to break down institutional silos?
- How does the local context shape political and policy frames of low-carbon transformation?
- How can we understand conflicting goals in local planning and politics, and how are they dealt with in municipal planning?

1.2 Climate and energy action plans

In the following, I will first give a brief overview of research on CAPs, particularly in the Norwegian context and how they compare to those in neighbouring countries.

After that I will present the three case cities and their planning and politics contexts.

In both academic and grey literature, cities are acknowledged and referred to as ambitious actors in low-carbon governance. The Covenant of Mayors, the EU's initiative for local climate action, has at the time of writing about 7500 signatory local authorities with submitted action plans. The C40 network gathers about 100 major cities globally to collaborate on climate action. As examples, Sydney, New York, Oslo and Addis Ababa are all cities with CAP targets that vastly exceed the national goals of their respective countries (Grandin & Haarstad, 2021; Hölscher & Frantzeskaki, 2020a). These ambitious cities exist within different national and regional planning hierarchies and national political, economic and cultural contexts. In many countries, making a CAP is voluntary, while it is compulsory in the Scandinavian countries (and elsewhere), with different regulations for each region (Damsø, Kjær, & Christensen, 2017; Kasa et al., 2012; Kasa et al., 2018; Lundqvist & Kasa, 2017).

It appears that most cities are doing climate and energy planning in one way or another. There is not a vast literature on CAPs per se, however, there are some, focusing on different angles of these plans. Various studies looking at selected case cities have explored whether the studied CAPs will work, reduce emissions or transform communities (Burch, 2016; Damsø et al., 2017; Millard-Ball, 2012, 2013; Stone, Vargo, & Habeeb, 2012; Yalçın & Lefevre, 2012). Both the CAP studies and the findings they present are highly contextual because the regimes that the CAPs are developed and implemented within vary to a great extent. In a study of Californian municipalities, Millard-Ball (2012, 2013) looked for causality between CAPs and measures and the development of more climate-friendly cities. Millard-Ball (2013, p. 5) and that the citizens' preferences were more instrumental than the CAPs per se. A Canadian study shows that co-benefits and reframing climate measures in terms of "cost-savings", 'reduced air pollution' and 'reduced energy dependence' has helped move the community forward" (Shaw, Burch, Kristensen, Robinson, & Dale, 2014, p. 48). Burch et al. (2014) argue that the co-benefits are particularly important because "transformation is not triggered by climate policy alone, but rather is shaped by a broad array of decisions and practices that are rooted in underlying patterns of

development” (p. 467). Analysing the French *pioneer cities*, the first municipalities developing CAPs after the PBA made such plans compulsory, Yalçın and Lefevre (2012) argue that the CAP “is first and foremost a mobilizing and learning process that is capable of revealing and institutionalizing a municipality’s capacity for collective action” (p. 114).

At the other end of the spectrum, Copenhagen is often held up as one of the most climate-friendly cities in the world. In their study of the implementation and effects of four CAPs in Copenhagen between 2002 and 2015, covering a bit more than a decade of municipal climate planning, Damsø and colleagues (2017) argue that the municipal level has great potential as a facilitator for mitigation efforts through collaborations with other actors. They also dive into the details of CAPs and discuss the importance of choosing wisely between GHG accounting procedures because they can be crucial to achieving goals. Cashmore and Wejs (2014) discuss the role and importance of institutional entrepreneurs in the municipality of Århus in Denmark.

Comparing municipalities in Sweden and Norway, Kasa et al. (2012) find that engaged officials (institutional entrepreneurs in other words) and proactive working groups are key to municipal mitigation efforts. While Sweden has much clearer regulations and economic incentives and systems for local mitigation work than Norway, the role of institutional entrepreneurs is significant in both contexts.

1.2.1 Climate planning within the Norwegian system

In Norway, the local democracy is an important aspect of governance and many climate measures for mitigation and adaptation are focused on this level (Neby & Zannakis, 2020). Groven (2017) argues that local climate politics and governance must be seen as a part of local environmental politics and governance, and that it must also be seen as part of the regional, national and even global environmental politics and governance. The national level’s organization in terms of responsibilities for climate is broad. That is, the Ministry of Climate and the Environment is overall in charge; however, seven ministries, with at least one corresponding agency to each, share responsibilities for either mitigation and/or adaptation. Hence, a number of

hierarchical silos and the potential for conflict and “divergence remains latent within the silos, surfacing at the subordinate agency levels and in political debate” (Neby & Zannakis, 2020, p. 11).

According to the PBA, the responsibility for land-use planning is first and foremost in the hands of the municipalities (Ministry of Local Government and Modernisation, 2014), which must follow the processes described by the law (including participation and public hearings from all concerned parties) and the national guidelines. If there are no objections from national or regional authorities, the municipalities can approve their own CAPs.

The PBA was revised comprehensively in 2008 and a guideline was made to follow this revision. A framework for making CAPs was proposed in this guideline, which “made explicit the expectation that local governments – both counties and municipalities – were to be frontrunners in national climate policy” (Kasa et al., 2018, p. 100). Hence, Norwegian cities should make CAPs by creating a set of goals and implementing them through related measures. On the one hand, the Norwegian system guidelines and the PBA represent soft regulations (Kasa et al., 2018) because there are no consequences for not making and implementing a CAP. On the other hand, Sweden has coupled soft regulations with clear demands to the municipalities if they are to make use of certain financial arrangements (Groven, 2017) and there is a clear delegation of responsibility in implementing climate policies to the local level (Kasa et al., 2012). Of the 356 municipalities in Norway (as of 2021), 80-90 % have a climate and energy action plan (Hepsø, 2020). In a webinar by the Norwegian Environment Agency, senior advisor, Marit Hepsø, states that many of these plans are old, and poorly integrated into other plans.

The map below, shows the targets of the counties and some of the Norwegian cities, distinguishing them by level of ambition.

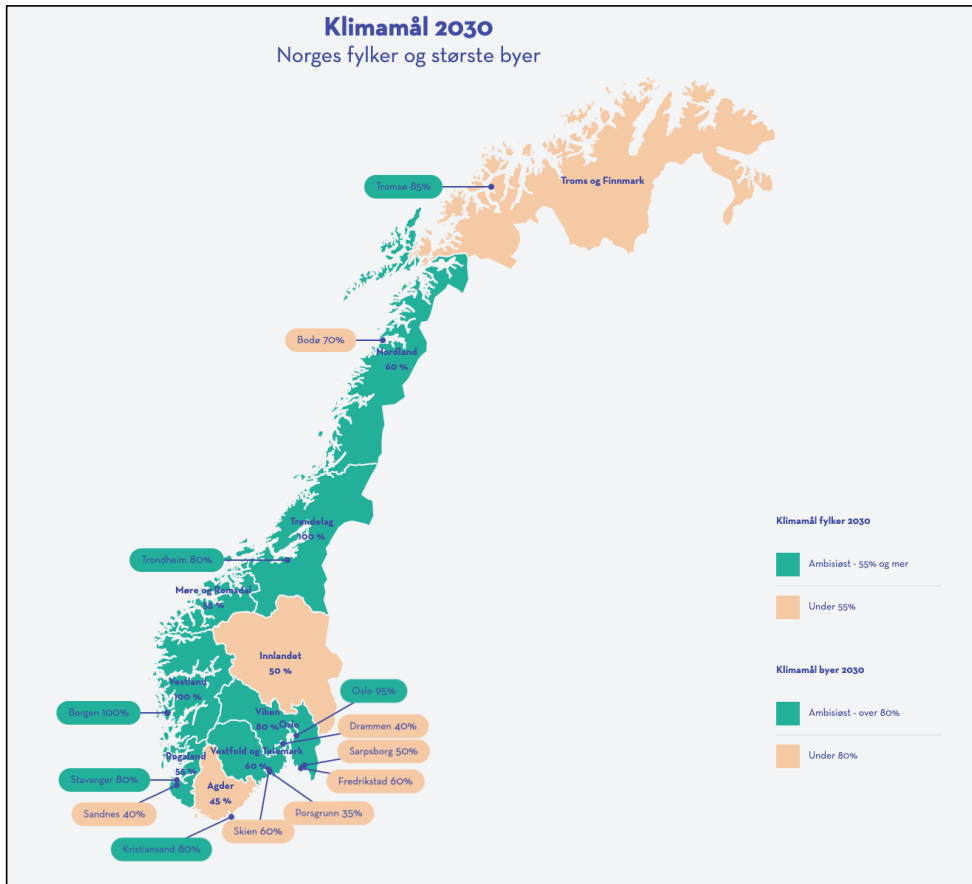


Figure 1: The Climate Map (klimakartet.no) by Klimapartnere shows an overview of targets in Norwegian counties and cities. For the counties, ambitious, here green, equals a target of 55% reduction by 2030, orange below 55%. For cities, green is over 80

Climate change practically influences all areas of municipal responsibilities and planning. However, how climate change is understood as a matter for municipal planning varies across municipalities. Tools, ways of doing things and institutional rationales differ between different spheres and sectors of the municipality (Biesbroek, Termeer, Kabat, & Klostermann, 2009; Pasquini & Shearing, 2014; Uittenbroek, 2016; Uittenbroek et al., 2014). Municipalities have different roles and ways of working, which can be coarsely summed up as long-term strategic planning and governance experiments. These two overarching tools often have different logics and proceedings. When making a CAP, particularly when doing so in a broad process

involving the relevant departments and a range of municipal actors, this will often mean that these ways of understanding and operating a municipality's space of action come into conflict with each other.

The CAPs exist and work within a broad network and hierarchy of plans, strategies and tools in the municipal system, and they work within broader networks, including goals, tools and plans from other scales and institutions. At the municipal level, the overarching *master plan* and the following *social elements*¹ are particularly important. In municipalities governed by political coalitions, the common document stating the main goals and developments of the coalition is also central. Hence, planning and politics become highly interlinked and potentially come into conflict.

Direct emissions from Norwegian municipalities comprise approximately 40% of the country's direct GHG emissions. Figure 2 shows the distribution of the direct emissions. However, the indirect emissions stemming from the consumption of goods and services produced in other countries are not included in the Norwegian statistics. Most municipalities, including the three studied in this work, do not have a focus on these indirect emissions in their CAPs. However, these emissions have been discussed to become a new focus area when the present CAPs are to be revised. Wang et al. (2018) note that targeting indirect emissions will be necessary to approach the ambitions of developing low-emitting societies (in line with the goal of the Paris agreement).

¹ Social elements in the Norwegian planning hierarchy outline the overarching principles for societal development through planning and are developed through a process separate from the master plan.



Figure 2: GHG emissions in Norway for 2014, including the distribution of emissions by 2050 if one or two tonnes per capita is reached (Wang et al., 2018).

For the cities in this study, transportation amounts to approximately 40-50% of direct emissions. This means that local, regional and national tools and plans to reduce transport or at least reduce the consequences of transportation, are particularly relevant, as are plans for expanding road capacities. This implies that one of the most important tools for municipal climate work is the *urban growth agreements*. These agreements are rooted in parliamentary climate agreements, which are a political compromise first developed in 2008, in which the national Parliament sets goals for the climate politics and measures for how these are to be achieved. The urban growth agreements “can also be seen as arrangements that transfer the ZGG to

local-level action” (Westskog, Amundsen, Christiansen, & Tønnesen, 2020, p. 557). The ZGG is the national zero-growth goal, which implies that the growth in passenger traffic in urban areas shall be covered by public transport, walking and cycling networks.

The goals, national structures and political and administrative regimes are an important part of the scenery when cities make and implement their own CAPs. As is the case for many cities around the world, the three cities in this study had all passed more ambitious goals and plans than the national targets in the processes studied for this project. The national level, including political regimes, soft or hard regulations

and the PBA, plays an important part in the larger framework of municipal planning and climate governance.

When developing the project for this thesis, I wanted to concentrate on cities within one national context to explore how local governance responds to the task of making, revising and implementing a CAP played out differently and similarly in three urban sites. How do the CAPs play different and similar roles in different local efforts to transform cities into low-carbon urban societies?

1.3 Case selection

To study the processes of making or revising CAPs, I needed to identify municipalities who were going to revise their plans within a certain time frame. I also wanted to look at municipalities with a certain level of experience with CAPs, that is, they had previously made a CAP (not conducted mainly by consultants), to see how the process of revising a CAP could be an arena for evaluation, learning and advancing municipal climate work. Another criterion was that the municipalities should stand out in terms of being ambitious and/or be identified as in the lead of one or more areas of municipal climate work.

The CAP of the Norwegian capital, Oslo, is definitely very ambitious. Oslo is among the most forward-leaning cities in the world; its climate work is advanced and stands out internationally. In the Norwegian context, however, Oslo has some features and mandates that other municipalities do not. It is both a municipality and a county, which gives Oslo a much broader array of tools as the city is also responsible for public transportation and roads, which are otherwise the responsibility of the counties in all other parts of Norway.

Leaving Oslo aside, three Norwegian cities stood out: Bergen, Trondheim and Stavanger. These three cities are regional centres in their counties, that is, they all have the dual role of being a periphery city compared to the capital and European cities, and being the centre in their own region. This implicates several centre–periphery dimensions for their city development strategies and politics.

These three cities are all part of a large city network (*Storbynettverket*, the fourth member of which is Oslo) that has developed over time into an important collaborative network that shares information, problems and projects on climate governance and planning. All three cities either had an established urban growth agreement with the state or were negotiating such agreements.

The cities share certain historical elements: they are all historical coastal Norwegian cities and have a history of both competition and co-operation with each other. For example, all three cities were in the running to become the oil city of Norway (Gjerde, 2002; Roalkvam & Gjerde, 2012). As for their main and clear differences, Bergen is a parliamentary regime, while the other two have alderman systems. As I will further discuss in the Methodology chapter, these structural similarities and differences became part of understanding the possibilities of each city during the mapping and field work phases, and also in light of each other. Studying these three cities together shed light on the origins of the possibilities and opportunities that varied or were similar amongst the cities.

As will be discussed in greater depth in section 3.5, understanding a place and its particularities can be further developed by viewing it in light of other places (Robinson, 2016). In looking at three cities in the same national context, the legislation and regulations were the same; however, their historical, economic, social, political, cultural and environmental contexts are both different and similar. My aim was to understand the role of CAPs in local transformation efforts and by exploring these three cities, I would obtain a different set of perspectives and insights than I would have if I had focused on a single city.

1.4 The three cities and their CAPs

After Oslo, Bergen, Trondheim and Stavanger are the second, third and fourth largest cities in Norway, respectively. However, these cities are not large in an international context. Thus, when they are referred to here as large, this size should be considered in its Norwegian context.

Bergen

The regional capital of Vestland county, Bergen has a population of 285 000 (2020). The city is 445,4 square kilometres large, amounting to a density of 638 person per square km. Bergen hosts a large university and a university college, in addition to several climate-related research hubs and centres.

Trondheim

The regional capital of Trøndelag county, Trondheim has a population of 207 000 (2020). The city is 321,8 square km, amounting to a density of 414 inhabitants per square km. Trondheim is a technology-focused city and the Norwegian University of Science and Technology is located here.

Stavanger

The regional capital of Rogaland county, Stavanger has a population of 144 000 (2020). The city is 71 square km, amounting to a density of 559 inhabitants per square km. As thoroughly discussed in the second paper, Stavanger is the oil capital in Norway and is the home of one of the youngest Norwegian universities.

1.4.1 Emissions in the three cities

As figure 3, below, shows, emissions in Bergen are significantly higher than in Trondheim and Stavanger. However, figure 4 shows that emissions per capita paints a different picture, Stavanger and Bergen's emissions are almost the same, whilst Trondheim's are a bit lower.

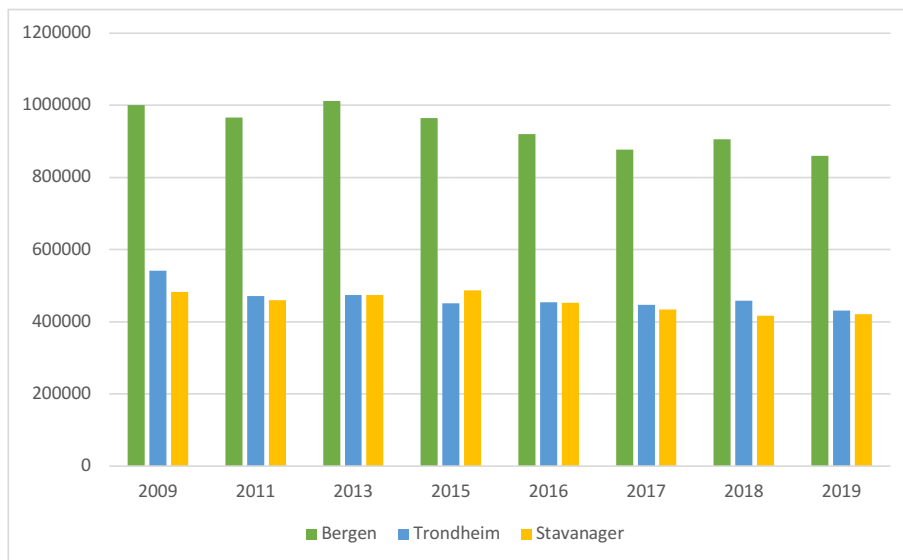


Figure 3: Direct emissions 2009-2019 (Miljødirektoratet (Norwegian Environmental Agency), 2020)

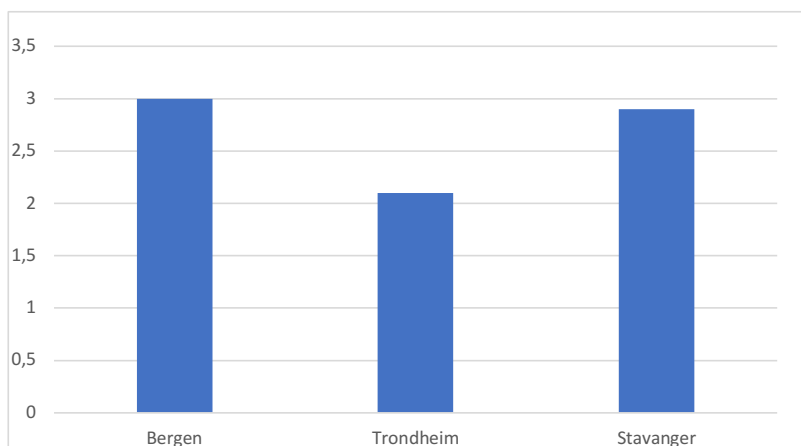


Figure 4: Direct emissions per capita, 2019. (Miljødirektoratet (Norwegian Environmental Agency), 2020)

Figure 5 breaks down emissions in 2019, by sectors and shows that emissions from road traffic are more than double in Bergen than the other two cities. Bergen is vast in size, and this is one important factor influencing these emissions. The sector aviation

also stands out for Bergen, stemming from the fact that Bergen has an airport, whilst for the other two cities, the airports are located in neighbouring municipalities.

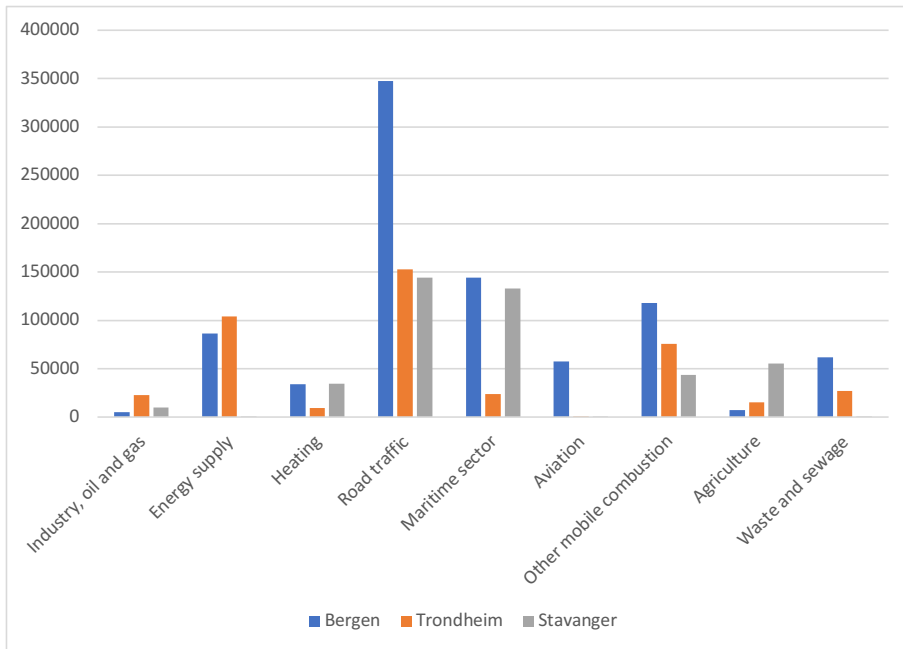


Figure 5: Direct emissions by sector, 2019 (Miljødirektoratet (Norwegian Environmental Agency), 2020)

Waste and sewage are another sector with major differences: Stavanger does not have an incineration plant for waste within city limits (but sends its waste to a neighbouring municipality) whilst both Bergen and Trondheim do have such plants.

1.4.2 Main features of the CAPs in the three cities

The main information about the CAPs and the processes of making them in the three cities is summed up in table 2, below.

Table 2: Main features of the CAPs in the three cities. The data in the table are a compilation of information retrieved from the three CAPs and the municipalities' websites.

	Bergen	Trondheim	Stavanger
Name of CAP	Green strategy	Municipal subplan: Energy and climate	Climate and environmental plan
Overarching goal	2030: Fossil free ² 2050: 1.5-degree city	2020: 10% reduction in direct emissions 2030: 80% reduction in direct emissions	2030: 80% reduction in direct emissions
Chapters in the plan	<ol style="list-style-type: none"> 1) Green strategy for Bergen 2) Developments since the previous CAP 3) Green shift in Bergen 4) Green business 5) Transport and mobility 6) Energy in buildings 7) Consumption patterns, waste and resources 8) Adaptation to climate change 	<ol style="list-style-type: none"> 1) Vision, main goals and strategies 2) Status 3) Production and distribution of energy 4) Land use and transport 5) Building and construction 6) Consumption and waste 7) Business, technology and the green shift 8) Adaptation to climate change 	<ol style="list-style-type: none"> 1) Transport 2) Energy and material use in buildings and construction 3) Consumption, reuse, recovery and waste management 4) Green areas and biodiversity 5) Agriculture 6) Air quality 7) Noise 8) Aquatic environment 9) Aquaculture 10) Environmental toxins in products 11) Contaminated seabed and land 12) Plastic litter 13) Radon

² Fossil-free refers to not using energy sources derived from fossils, such as coal, gas and oil: "Bergen shall not use fossil energy sources" (Bergen municipality, 2016, p. 13).

			14) Climate change adaptation
Generation plan	3 rd .	3 rd .	3 rd
Governance regime	Parliamentary	Alderman	Alderman
Political regime	Coalition of the Conservatives and Progress parties during planning. Coalition of the Labour, Christian Democratic and Liberal parties at time of passing.	Coalition of the Labour, Green, Socialist Left, Centre, Christian Democratic, Liberal and the Pensioners parties.	Coalition of the Conservative, Progress, Liberal, Christian Democratic, Centre and Pensioners parties.

1.5 Summary of the research design

The point of departure in this thesis is what role a thematic, municipal plan can play in local transformation efforts to low-carbon societies. In this thesis I have operationalised the main question into three subquestions, bringing together insights from literature and empirical data. The three angles examine a) the potential for breaking institutional silos inhibiting transformation, b) the role and expressions of political will, particularly by relating this to place as historical, economic, social and cultural context, and finally, c) conflicting goals and lock-ins.

In the following I will first present the theoretical framework, drawing insights from both literature on transformation and on planning. Then chapter three presents the methodological basis and discussions, before the fourth chapter summarises main findings from the PhD-work.

2. Theoretical framework: Transformative planning or planning for transformation?

The guiding question of this study is: what role does a CAP play in the municipal transformation to a low-carbon society? To answer my research questions, I use insights from both the planning and transformation literatures. I explore how transformation debates, paradigm shifts, consumption patterns and technological development are related to municipal planning. It is no longer possible to regard climate change as a clear-cut environmental problem, but rather “it is viewed as a *symptom* of contemporary unsustainable production and consumption processes, resource and land use, design patterns and individual values and behaviours, as well as an *amplifier* of existing vulnerabilities and risks” (Hölscher & Frantzeskaki, 2020b, p. 5). Urban climate change measures and policies are often discussed as *experiments*, such as a way of finding out what can work to disrupt infrastructure with the goal of more sustainable cities (Castán Broto & Bulkeley, 2013a, 2013b; Grandin & Sareen, 2020; Hodson, Evans, & Schliwa, 2018). In this thesis, however, I focus on the need to systematize, influence and shift systems on a long-term basis.

In this theoretical chapter, I will first take a look at climate change as a local issue. That is, how the effects of climate change are shaped by the local structures and materialities, how climate change in turn shapes future materialities and structures, and how it is a matter for local politics and governance. Then I will take a closer look at the transformation literature before exploring the planning literature. I end the chapter by bridging these two literatures and showing how this scope shapes, and is being shaped, by field work and the cities studied.

2.1 Climate change as a local issue

Climate change has been established as a very relevant topic for local governance and politics. It is at the local level where the effects of a changing climate will be felt, it is at the local level that individual behaviour can be influenced most directly, and measures to reduce the effects and mitigate emissions are implemented at the local

level (Amundsen et al., 2018; Hölscher & Frantzeskaki, 2020a; Pasquini & Shearing, 2014). Hence, climate change as experienced locally, touches upon a number of other topics and is entangled with practically every aspect of human behaviour and influence on nature. Arguably, the local level can be seen as where everything is connected to everything else – where the different concerns that tend to be separated in national policy making come together and run up against one another, where abstract ideas become practical reality. It is where schools, universities, social housing, parks, hospitals and workplaces – indeed, everyday life – are all located. The local level is the urban fabric that influences the materiality and movement of a place (Bulkeley, 2013; Pasquini & Shearing, 2014), and this fabric affects and shapes emissions and vulnerability and hence, the nature of municipal climate planning and decision making.

Concerned with how poorly climate change in the natural sciences travelled across scales through the quantification and aggregation of local weather data into regional and global indicators, Hulme (2008) argues for the need to bring cultural dimensions of, on and by climate change into research, debate and policy. He presented an example of how a rainstorm “offers an African farmer the visceral experience of wind, dust thunder, lightning, rain – and all the ensuing social, cultural and economic signifiers of these phenomena” and that in global meteorological and (natural) sciences this “is reduced to a number, say 17.8 mm” (Hulme, 2008, p. 7). Bulkeley (2013) draws on this line of thought when outlining how climate change plays out in the urban setting: “climate impacts do not just happen to the city, but are fundamentally shaped through it – they are integral to the processes that create urban spaces” (Bulkeley, 2013, p. 29). Of course, the relevance of local regimes, power structures, relations to national authorities and the participation in networks with other places are all factors that influence the possibilities, opportunities and constraints to shift societies in a direction more able to deal with the consequences of climate change. Thus, the geographies, spatial particularities and scalar dynamics of climate change are the basis for my theoretical and empirical exploration in this PhD project.

My geographical background, that is, the core concepts in understanding the world as a geographer through place, space and scale, is as always particularly relevant when examining local climate transformations. The emissions to be reduced drastically and the carbon footprint of the population in local climate governance is shaped by the materiality of the place, that is, its cultural, historical, social and economic context. Place is “a way of seeing, knowing and understanding the world” (Creswell, 2003, p. 11). One’s place in the world, such as in a city neighbourhood, will subsequently influence the available possibilities and constraints; thus, socio-economic factors, historical attributes and gentrification all form part of a city’s material and topographic structures. Bulkeley (2013, p. 18) eloquently states that “understanding the impact of climate change is to understand how it will add to or relieve, existing vulnerability” (p. 18). The impacts of climate change will be experienced differently, just as the responsibilities for emissions differ between different areas. Both emissions and impacts are place-based; therefore, transformations towards low-carbon societies and cities will also be place-based with spatial dimensions. Hansen and Coenen (2015) underscore how unpacking the spatial “configuration will allow us to understand better the underlying processes that give rise to these patterns” (p. 95). This implies the need to analyse both the particular places and the “geographical connections and interactions (i.e. the spatial relations) within and between that place and other places” (Hansen & Coenen, 2015, p. 95).

The rapid urbanization experienced globally is expected to reach 70% by 2050 (DESA, 2018) and will continue to place strains on land use, energy demands, lifestyle issues, biodiversity loss and mobility patterns. These issues all come with sets of interrelated problems, such as waste, poverty, pollution, access to water and social tensions. Urban development in the face of climate change enhances and shifts the complexities and challenges of cities. As these are issues with both environmental and human characteristics, they are “doubly complex” (Dryzek, 2013, p. 9). Hence, climate change as a central topic in urban development and transformation is considered a *wicked problem* (Neby & Zannakis, 2020; Urry, 2016; Wang et al., 2018). Wicked problems are defined to have both multiple causes and possible solutions, if any, that

they are interlinked with other problems, and there is a danger that “the effort to solve one problem reveals or creates other problems” (Urry, 2016, p. 64) (see paper #1 for a further discussion on wicked problems as a topic in planning). Hölscher and Frantzeskaki (2020b) argue that this problem can be regarded from a positive angle by seeing cities as “ideally placed” to be agents of change “with the potential to deliver effective climate action dealing directly with the sources of emissions while strengthening local communities and restoring urban nature” (Hölscher & Frantzeskaki, 2020b, p. 4). Amundsen and Westskog (2018) refer to the three roles of municipalities, which all can contribute to a local low-carbon transformation: a) administration of acts and laws; b) provider of services and c) community development. In achieving transformation, these three roles must be used and also be transformed: that is, the municipality’s previous ways of working must also change. Because climate change will affect places differently and is also shaped by places, the local efforts to move towards low-carbon societies, transformation, will also be place-based and unique, and municipal responses to climate change will have to involve all aspects and tools.

2.2 What is transformation?

Transformation is radical, centres on systems, involves political, bureaucratic, financial and individual behaviour and values, and leads to paradigmatic changes in society and structures. Transformation entails “physical and/or qualitative changes in form, structure, or meaning-making” (O’Brien & Sygna, 2013, p. 1) and it involves “diverse, emergent and unruly political alignments” (Stirling, 2015, p. 54).

In his literature review of the use of the term “transformation”, Feola (2015) shows that it has been applied as a metaphor in many cases rather than as a defined concept accompanied by an analytical framework. However, there seems to be an agreement on “transformation as a major, fundamental change, as opposed to minor, marginal, or incremental change” (Feola, 2015, p. 377). This lack of clear definition has allowed for the institutionalization of the term in both the scientific and policy communities (Feola, 2015). Thus, the term is used by researchers as an analytical tool and

alternatively by practitioners and politicians to present the severity of the situation and the required measures through the use of metaphor.

Grandin and Haarstad (2021) refer to the broad literature on the theme and argue that despite the divide between the “gradual transition driven by innovation” and the more “unruly transformations” (p. 67), both share a systemic approach. Both Stirling (2015) and Pelling (2010) provide distinctions and definitions on transition and transformation, respectively. Pelling (2010) describes transition as processes in which “reform is incremental, undertaken at the level of individual policy sectors or specific geographical areas” (p. 69). Stirling (2015) adds to this definition by explaining transition as “managed under orderly control, through incumbent structures according to tightly disciplined knowledges, often emphasizing technological innovation, towards some particular known (presumptively shared) end” (p. 54). He underscores that the distinction between the two concepts is “heuristic” and argues that the “real value lies in considering implications on a concrete case-by-case basis, by reference to real-world examples and settings” (Stirling, 2015, p. 62). This variety of understandings of how transformation arises, for example, carefully planned, broad socio-economic mobilization or “triggered by biophysical forces such as climate change” (Scoones et al., 2020, p. 2) becomes visible in the variety of research using transformation as a central concept.

To show the complexities of transformations as a process and analytical point of departure at the local level, Hölscher and Frantzeskaki (2020a) lay out three interlinked perspectives on urban transformations: that is, transformation *in*, *on* and *by* cities. The place-based changes and dynamics are at the core of transformation *in* cities, with a focus on the grounded processes of change and the drivers of these changes. Such a place-based focus opens up questions of why and how change happens in some places and differently or not at all in other. The transformation *of* cities refers to evaluations of the resulting changes stemming from transformation dynamics: that is, “new urban functions, local needs, new interactions and outcomes” (2020a, p. 120). Transformation *by* cities refers to the role that cities have taken at a global scale as “agents of change” because globally, cities are both the source of

approximately 70% of emissions and also key sites to develop sustainable futures. Hence, “this perspective looks at the power and institutional leverage cities bring in global agendas for governance of climate change and in national agendas for governance of resources and land use change” (Hölscher & Frantzeskaki, 2020a, p. 121). The processes of transforming cities have outcomes both in the city, its materiality and culture, in politics and local communities, and these transformational processes and outcomes play roles at other scales through learning networks and national regimes.

One of the aspects of the city as an agent of change is that national governments are doing too little in the face of what is considered a highly urgent matter. Stirling (2015) asks whether democracy is an obstruction to transformational paths towards sustainability and reminds us that the vision of sustainability in the Brundtland Commission’s report was to achieve “greater democracy”. However, he argues, the notion of democracy has lost its voice through implementation processes. This brings to mind Newell’s (2015) argument about the lack of focus on *the politics of transformation*, despite however much research is done on the *governance of transition*. This may touch on the core issues of local, municipal climate planning. The tension between bureaucracy, planners and politicians, their different contexts and framings of *what* is realistic, possible and sustainable, and of course, of the major, value-laden political decisions to be made if transformation is to be achieved.

2.2.1 Slow transformation? To hurry, slowly

As noted above, the term “transformation” is understood in a variety of ways. In the context of local planning, a central question is whether gradual, incremental change can become a fundamental shift, a paradigmatic change. On the one hand, Amundsen et al. (2018, p. 24) claim that yes, “a stream of incremental adaptive actions is in general seen to have the ability to shift the system towards new development paths that can be described as transformation” (p. 24). On the other hand, Kenis and Lievens (2017) find a paradox in cities striving for carbon neutrality:

The transformations they intend to realise are quite substantial and even radical, while their discourse on partnerships, win–win situations and multistakeholder cooperation fails to adequately grasp the inevitable trade-offs and difficult decisions and choices that will have to be made. (...) no real recognition is given to the fact that realising climate neutrality implies a fundamental, and politically significant transformation of social and political values and priorities. (Kenis & Lievens, 2017, p. 1766)

Hence, once again the note by Newell (2015) about the differences in the governance of transition and the politics of transformation appears. The long-term decisions that must be made should add up to a series of actions leading to transformation. However, simultaneously a series of long-term decisions about fossil energy sources and the financial investments in them are also made. At the local level, this duality emerges between efforts towards low-carbon societies and, for example, the massive construction of new road infrastructure. In their study examining local politicians' reflections on conflicting goals, namely, climate goals versus expansions of road capacity, Øksenholt and Tennøy (2018) observe that this was expressed by the fact that the “politicians try to provide for and prevent car traffic at the same time, and thus have a foot in each paradigm” (p. 13). Essebo and Baeten (2012) analyse mobility in light of sustainability goals as myth-making and conclude that the “addition of ‘sustainability’ to ‘mobility’ bridges the gap between environmental limits and quantitative growth” (p. 563).

Loorbach (2020) argues that transformation must be understood as deep and more fundamental changes, which are “shock-wise and unpredictable processes in which established dominant cultures, structures and practices (the so-called regime) destabilize and move out-of-equilibrium” (2020, p. 440). This could be seen as almost the antithesis of planning, with its long, broad processes and working to reach equilibrium and consensus. How can planning and the local level's tools and institutions bring forth such fundamental changes, critical questioning aimed at not relieving symptoms, but attacking the root causes of the mess we find ourselves in?

The role of local governance in driving transformation can either be seen as an incubator of change, spreading to higher levels of governance, or as an actor that through continuously working for incremental change may tip the system towards sustainability. (Amundsen et al., 2018, p. 24)

Based on insights from the two front-runner cities in climate work, New York and Rotterdam, Hölscher (2020) argues that certain capacities are central to the climate work in these cities, such as long-term strategies and financial mechanisms, co-ordination, experiments and systemic knowledge. However, she finds that “this type of integrated and experimental approaches still only takes place at the fringes of urban governance” (Hölscher, 2020, p. 242). There is a need for mainstreaming (Uittenbroek, 2016; Uittenbroek et al., 2014) and policy integration (Adelle & Russel, 2013; Groven, 2017). Can such processes be regarded as transformational? Could shifting the principles of governance be regarded as changes in worldviews? Climate change is a wicked problem. At the local level, it most certainly becomes an issue involving all aspects of a place and hence, one can claim that such processes, when successful, can entail “a regime shift”, changing both “worldviews, institutions, *and* technologies together, as an integrated system” (Beddoe et al., 2009, p. 2484).

Hence, I move towards the planning literature considering that the transformation literature highlights structure, rupture and paradigm shifts as central and inevitable in a systemic move towards a sustainability or low-carbon model.

2.3 Planning for and envisioning a future

Planning is often discussed as a continuous act, that is, it is not the planning document per se that is the main goal, but the process:

Some have argued that in complex multi-organisational, multi-stakeholder environments, the purpose of planning is to engender better deliberative practices (e.g., Innes, 1995), to build institutional capacity (e.g., Healy, 1998), or to create political spaces for conflict (e.g., Pløger, 2004). Creating plans is

incidental in these frameworks, while the key questions are largely about the process of planning itself. (Kaza, 2019, p. 412)

Kaza's (2019) reflection pinpoints what has been labelled the dynamism of planning by many researchers, namely, the importance of planning as not being solely about making *a* plan. In this way, planning is considered a series of events and actions: "a formal instrumental process of addressing contingency and complexity by making temporal, spatial and institutional connections" (Madanipour, 2010, p. 16) using strategies with the goal of "shaping or protecting the built and natural environment" (Rydin, 2003, p. 1). Thus, planning has a focus on the future, that is, on how physical structures shaping everyday life are to be developed to reach a (defined) goal. Temporality, the understanding of time, and the possibilities of affecting future outcomes are central. Planning also reveals the struggle over the definition of what is desired in the future scenarios.

Much planning literature focuses on spatial plans. However, strategic and thematic plans, as for example CAPs, are also central to the planning hierarchy and share many of the same features, such as dynamism. Kaza (2019) points to the differences being rooted in what is to be reconfigured. For example, strategic plans focus on the institutional level, such as "rules, rights, practices, taboos, sanctions and organisations", while spatial plans focus on "the configurations of actions and outcomes in space with particular attention to interdependencies" (Kaza, 2019, p. 3). Evaluating the PBA in Norway, and in particular, investigating the role of the social element of the municipal master plan, Aarsæther and Hofstad (2018, p. 163, my translation) warn that "there is a risk that what should have been a strategic document can in practice appear as a ritual listing of good intentions".

Again, the goals of these thematic and strategic plans will have an effect on spatiality and what can be spatially performed in a city/place; that is, if the plans are followed and implemented. Master plans and zoning plans or even singular decisions on municipal services, such as schools, kindergartens, swimming pools, etc., are at different ends of municipal politics and policies, but investigating coherence and the

lack of such between them, can be an important tool to understand the power relations involved. Rydin (2007, p. 58) suggests that “the planning system should be conceptualized as a series of arenas in which a variety of knowledges engage with each other” (p. 58). Therefore, if we look at planning through the lenses of a climate planner, there is an entirety of different knowledges and contexts, other than that of climate change, which must be put into context and into the planning process. Certain questions arise from this acknowledgement; in particular, how are we to understand, research and discuss societies facing climate change?

Collaborative planning, as often associated with the work of Patsy Healy, has developed as a response to the modernist style of planning. Healy drew on Giddens’ framework of structure and agency to theorise her own experiences in the implementation of spatial plans in England (Healey, 2003). She saw planning as necessarily an interactive process between different governance actors operating in complex environments. Collaborative planning, then, is about expanding the range of decision-making processes beyond the command-and-control processes of modernist planning. Collaborative planning is characterized by multiple stakeholders being involved, where the planners are located “in the midst of a web of contacts” (Rydin, 2011, p. 20). The role of the planner becomes one of being a mediator (Campbell, 1996) that handles the communications and input from and between stakeholders, interests and ideas. In the analysis in this thesis, we will see multiple examples of how my planner informants struggle with this mediator role (see especially papers #1 and #3).

Campbell’s (1996) “planner’s triangle” (p. 298) exemplifies these negotiations in which the planner must find a middle ground by bringing the three corners of the triangle, namely, economy, social justice and environment, to a sustainable middle. However, when Campbell (2016) revisited his planner’s triangle 20 years later, he finds that we may “need to let go of the idea of balance (between social, environmental, and economic priorities) as the core principle for sustainability, and instead speak of a kind of truce, a working contradiction, a stalemate, a temporary armistice” (2016, p. 369).

Planning as multiple, temporal, spatial and institutional connections then leads to gaps between “accounts and actions” (Madanipour, 2010, p. 2). Madanipour (2010) discusses spatial planning as an instrumental process that seeks to shape spatial conditions in the context of contingency, diversity and uncertainty typical of contemporary, complex urban society. The causality between the plan and changes might be very difficult to prove:

While society’s expectations may be to achieve b – and the reason for young people’s interest in planning may be to search for b – academics and professionals may be more preoccupied in how to generate a and how to connect it to b , and – together with politicians – how to prove, refute and disprove the existence of this connection. (Madanipour, 2010, p. 3)

Van Assche, Duineveld, and Beunen (2014) discuss three levels of power in planning: the power *of* planning as the impact on society; the power *in* planning as the relations between the actors in the planning processes; and the power *on* planning as the influence the society at large has on the planning structures. They use Foucault, Deleuze and Luhmann to in their poststructuralist account of power and contingency in planning and argue that “for all three reality consists of events and that, over time, *recursive repetition of events leads to new structures*, with both elements and structures, both objects and subjects, to be considered products of transformation and starting points for further transformation” (Van Assche et al., 2014, p. 2389, emphasis added). They argue that contingency can be understood as a cornerstone concept to understand planning’s role in shaping society, both limitations and possibilities, understanding the concept as “that which is possible but not necessary” (Van Assche et al., 2014, p. 2387).

2.3.1 The role of setting targets

A central part of making plans is setting targets to establish the goals that the plans are to achieve. Target setting has been argued to be an exercise of *think of a number*. However, as both Hulme (2015) and Haarstad (2020) argue, the role of the discursive and political processes of setting these targets have value and can be interpreted as

expressions “of cultural beliefs and political values” (Hulme, 2015, p. 902). Kaza (2019) adds to this observation, noting that a central and important feature of plans is that they are imprecise because they are used “in planning and political processes long after the plan is made” (p. 425). Hence, the debates about the planning documents and their discursive expressions of culture and values can play different roles to those both anticipated and planned for.

Tennøy and Øksenholt (2018) show this understanding in their analysis of how changed structural conditions impact regional mobility planning. Despite much being the same, such as the national level’s reluctance to let regional plans guide land use when in conflict with municipal plans, the conflicting goals and insufficient reductions in traffic numbers and emissions, Tennøy and Øksenholt (2018) find that *something* is changing.

It seems that this has to do with an interaction between societal goal priorities, clearer understandings of the need for professional knowledge, and counties responding by exercising their agenda-setting power more strongly. (...) An increased focus on the zero-growth objective has brought about an understanding of need for regional steering and coordination, which has strengthened the legitimacy of counties to exercise power. (p. 107)

Hence, as Kaza (2019) shows, the best way to evaluate the role of a plan is not necessarily to investigate how it was implemented, but what role it played. The same goes for goals and targets: that is, their main role might not be to be achieved, but that they have opened debates and hence displayed discursive and material battle-fields. Societal goals need maturing, that is, they need time to play different kinds of roles, such as the ZGG in Norway. The goals do not stand alone, but the “objectives, knowledge and power are reciprocally interrelated and affect planning processes and resulting plans” (Tennøy & Øksenholt, 2018, p. 108). Linking this finding to the transformation literature shows that incremental steps have been made through the setting of goals, and through the goals working in the planning system, in the municipal hierarchy, and in society at large. McPhearson (2020, p. 106) argues the

need to develop “new governance approaches ... that link climate change to other goals” (p. 106). Moving beyond incrementality, systemic changes must be a next step, hence, we should discuss whether planning can be transformational.

2.4 Planning as transformational?

How can we look for the potential for transformational change within planning processes? Madanipour (2010) concludes his discussion on connectivity and contingency in planning in that planning needs to make “new temporal connections (...) that enable local societies to think about and act to achieve the sort of future they wish to have (...) new spatial connections are needed that can connect the plan and the project” (p. 16). This resonates with the ideas of transformation through gradual steps, or as Pelling (2010) puts it, the possibility of transition having transformational capacity through the “potential for bottom-up, aggregate transformational change, through, for example, the promotion of stakeholder participation in decision-making, leading to the inclusion of new perspectives and values in emerging policy” (p. 69).

The notion and understanding of planning as dynamic, as a tool to be used and revised and developed, can quite easily be coupled with transformation as incremental steps towards a paradigm shift: “It is precisely in the continuous interaction between objects and subjects, between elements and structures, between discourses and materialities, that realities are changing” (Van Assche et al., 2014, p. 2390). Planning is coupled with politics, with four-year cycles and the fear of upcoming elections, with compromises and deals made between actors of differing backgrounds, interests and understandings of what is the main goal. Planning and politics, and maybe particularly in terms of wicked problems, must be seen as two sides of the same coin. As discussed earlier, a central role for politics in local planning is the setting of targets. These goals and targets influence how the implementation of the plan develops.

The implementation is also affected by the sectorial division in governance. Studies of have illustrated the challenges encountered when new concerns are introduced across sectorial boundaries. Scoville-Simonds and co-authors (2020), for example, reviewed

evidence on the hazards of mainstreaming climate change adaptation, and found that mainstreaming risks reinforcing technocratic patterns of control. Transformation to low-carbon societies must include not only heightened awareness of new issues, but a transformation of municipal governance itself. McPhearson (2020) argues that the breaking of municipal silos might be seen as the most urgent challenge for urban climate transformation.

The majority of urban governance systems are still characterized by administrative and jurisdictional divisions across sectors and scales and short-sighted political cycles, resulting in policies, plans, and solutions that prioritize short-term needs over long-term resilience goals. (McPhearson, 2020, p. 106)

Collaborative planning processes have the potential to bring about some changes in these silos and will entail negotiations between interests, knowledges and values, which often include contradictions and paradoxes and a need to bridge these. Even though the contradictions inherent in these profound changes hold potential to drive progress (Castán Broto, 2015), the need for transformation to happen is not just in society at large, but also within the organizations planning for a low-carbon transformation (Uittenbroek et al., 2014) (for further discussions and literature review on this, see paper #1).

Climate change cannot be solved by technological innovation and niche shifts alone; thus, a transformation must be understood as several simultaneous processes, which together form a shift in the social order, systems and structures, or what might be called a paradigm shift. Systems and structures must change and these changes must occur in both priorities, ways of working and alliances. If we understand transformation as multiple processes at once, all moving ground for a new way of prioritizing, understanding and working, planning can play a part. However, if planning can be a driver of (local) transformation, is a different dimension. If planning, planners and the political regime that the planning hierarchy is situated within are able to form processes that involve actors outside the sphere of planning and institutionalize prioritization of a sustainability weighing social and ecological

factors equally, or more, to economic factors, one could imagine a situation of gradual transformation. This involves a focus on not just the processes of setting ambitious goals and targets for local climate mitigation, but also careful attention to the many smaller and larger processes afterwards.

2.5 Operationalizing the literature review

Summing up the dialogue between the transformation and planning literatures, some themes are recurring and stand out as key nodes:

1. Climate change is a wicked problem (Neby & Zannakis, 2020; Urry, 2016; Wang et al., 2018)
2. The local is where everything is connected to everything else (Bulkeley, 2013; Pasquini & Shearing, 2014)
3. Place specificity, that is, contextual contingencies create a variety of possibilities and constraints (Burch et al., 2014; Hansen & Coenen, 2015; Wang et al., 2018)
4. Sectorial divisions inhibit the mainstreaming and all-encompassing climate work in municipal structures (Biesbroek et al., 2009; Burch, 2010b; Uittenbroek, 2016)
5. The role of target-setting and hence the role of political will and interlinkages between planning and politics (Hulme, 2015; Haarstad, 2020; Newell, 2015; Uittenbroek et al., 2014)
6. The lock-ins, conflicting goals and paradoxes inherent in the urban scenery (Castán Broto, 2015; Loorbach, 2020; Wang et al., 2018)

These theoretical insights are reflected in the papers that comprise this thesis and can be summed up in figure 5. The top grey box is the overarching theoretical point of departure: climate change is a wicked problem that becomes intertwined with materiality, culture, world views, economy, politics and so on. Following from that acknowledgement is the local insight: that is, everything is connected to everything else, and this in turn influences GHG emissions and the possibilities and constraints to

reduce said emissions. The next level, the blue boxes, are the theoretical discussions and key nodes in the PhD project. The bottom level, the green boxes, show the three papers and their empirical points of departure; The green box to the left corresponds to paper #1, the middle one to paper #3 and the right-hand box paper #2. The arrows show the relationship between the theoretical and empirical dimensions, and as can be seen, the different theoretical input and insights feed into several of the papers and hence empirical insights.

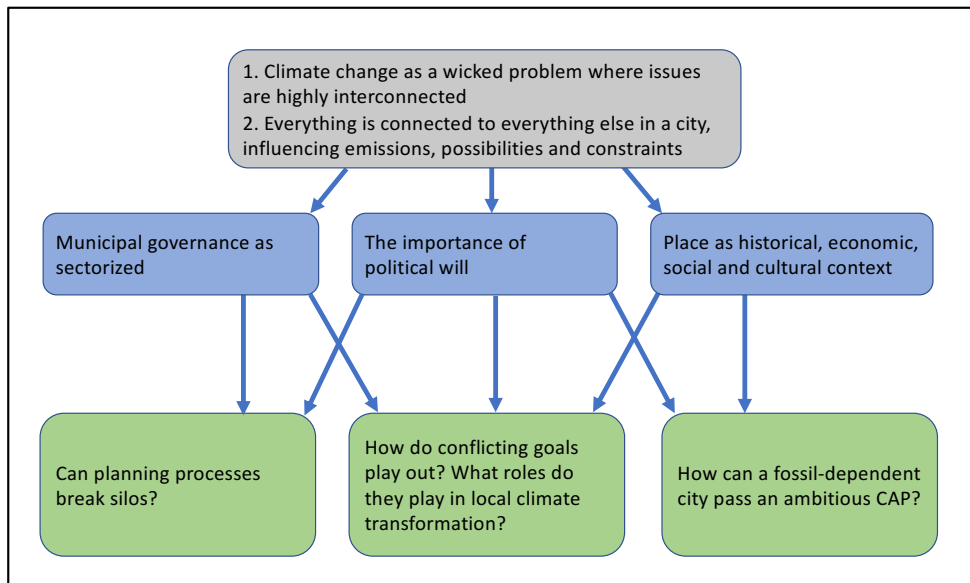


Figure 6: Linking theoretical key points to the empirical questions.

The point of departure of the first paper, *Breaking silos: can cities break down institutional barriers in climate planning?*, is an exploration of how planning processes can facilitate a breaking down of institutional silos. Planning processes are both administrative and political, and there is a movement between these two, in which political will is prominently important. In the paper, I made use of Allen (2004) and his concept of *in-betweenness* to discuss both institutional processes of anchorage between silos and between administrative and political spheres.

Political will and how it can be expressed was an important feature in the second paper, *Lifting the fog of oil? Exploring the framing of ambitious local climate politics*

in an oil city, as well (right, green box in figure 5). In that paper I linked this to place-basedness, and particularly how contextual features can play out in mobilizing and making ambitious, local climate politics possible, even in a fossil-dependent city. To do this, I analysed the frames of the political actors, and found that through the mobilization of previous urban transformation, the majority shifted from more modest goals in line with national targets to almost double the original goals (e.g., 40/50% to 80% reduction of GHG emissions by 2030).

The third paper, *Displacing Conflicting Goals in Planning for Sustainability? Insights from Three Norwegian Cities*, brings all theoretical insights into play, when conflicting goals are the focus (middle green box in figure 5). Conflicting goals can be divided and broken down into several subunits, and institutional rationalities, material interests and discourses are all central (Oseland & Haarstad, 2018). They are often constituted in place-specific nuances. Thus, how to solve such conflicts or move beyond them become matters of political will, of institutional entrepreneurialism or of avoidance, that is, by moving responsibilities or pointing to other scales or actors as key factors.

Before I draw lines between these theoretical insights and the main empirical and analytic findings and hence more details and discussions from the papers, I will present, discuss and expand on the methodological aspects.

3. Methodology

How can the role of climate planning in local low-carbon transformation be studied? The focus of this chapter is on explaining the choices made, and how fieldwork, data production and analysis were conducted. I highlight the role of contingencies and the answers to be found in small questions and repeated conversations in the field.

Through a multimethod and multisited approach, I wanted to explore and gain insights from the efforts of cities to become low-carbon societies, by understanding the processes through elsewhere, and their different yet similar contexts and realities. I wanted to understand the process of making and passing a CAP: the discussions, agreements and contradictions. Last but definitely not least, I wanted to expand my theoretical and empirical knowledge as a *geographer* involving the interactions between and within places, between scales, between humans and nature, and between the urban and its surroundings.

This is a case study with three cases. The processes of making CAPs in the three cities gives insights to local climate transformation both on their own, and by examining them in light of the others, each with their own both particular contexts, and also shared context. Over the years developing this process, three papers have been written and finally accepted and published. They represent different theoretical, empirical and methodological angles to local climate transformation; paper #1 examines the potential for breaking municipal silos through the process of making a CAP, comparing and understanding two cities in light of each other, bringing forth two very different ways silos can be broken. Interviews, observation and field conversations were particularly central to this paper. Paper #2 focuses particularly on the political process, and examines discourses and how contextual factors can be mobilized to shift these discourses. Methodologically this paper combines document analysis, particularly media coverage, and transcribed debates both in media and in city council, observation and interviews. The third paper makes use of document analysis, interviews and field conversations to explore how conflicting goals are dealt with, or actually displaced.

To study the processes of making and passing CAPs in three cities, the methods included participant observation, field conversations, semi-structured interviews with key actors directly involved in the processes, and analysis and use of media coverage and public debate. Section 3.2 both discusses the usefulness of these methods and details of how they are performed and used in this particular study,

As I elaborate below, in this study, it has been important to study phenomena as they were happening because I wanted to grasp notions, reflections, frames, ideas and vacuums of knowledge, or actions and ideas, as they appeared and evolved during the process in order to understand how the cities are developing their understanding of the all-encompassing topic. Campbell (2012, p. 143) argues that research tends to examine policy making in retrospect, but that more “focus on the process of reasoning in real time might offer insights into effective forms of synthesis – in other words, how knowledge can effectively change the world for the better”. Closeness to the field will lead to a richer learning process, and, probably, more useful research (Flyvbjerg, 2006).

This approach also gave me the possibility to reflect on contingency as “that which is possible but not necessary (...) that which is but could have been different” (Van Assche et al., 2014, p. 2387), by not merely conducting semi-structured interviews after the fact, with the reflections that this entails, but to achieve an interaction between observations and the more formal interviews. However, I have done both, observing and conversing in real time, and interviewing shortly after-the-fact.

I have drawn inspiration from situational analysis, particularly the flexibility of methodologies, the mapping of situations and concepts, and by defining the situation—here, the processes—as the case units of interest.

Finally, an important part of the methodological discussion is my own situatedness. Before embarking on my PhD study, I worked in both a non-governmental organization and later as a climate and energy advisor in Hordaland County council (almost two years from 2012, working on renewable energy, climate change and I was in the working group for the regional CAP, passed in 2014), which provided an

entrance to many of the problems studied here, in terms of a social network as well as knowledge of the bureaucratic systems. It is important to reflect on both my role in the field and how my background affects my understanding, in other words, my biases.

Briefly put, the methodology chapter (1) defines the boundaries of the study, (2) explains my process of selecting informants, carrying out participant observation and field conversations, conducting interviews and following political and public debates, (3) elaborates on situational analysis and how it has inspired my approach, and (4) reflects on my situatedness.

3.1 Case study and defining the boundaries of the study

As a bachelor student in geography, we were asked to always question *why is this happening at this particular place?* A case study explores a topic or an issue through one or more cases, and there is debate about whether a case study is understood as a strategy for limiting the field or as a complete methodology (Creswell, 2007). The interaction between human behaviour and the surroundings (broadly conceived) is at the heart of (human) geography (e.g. Sneddon, 2009). In recent decades, case studies have been frequently used in geography because of the focus on the particular empirical situation: “the case may thus be unique but is not singular” (Castree, 2005, p. 541). The focus of case studies is on real life, and details are important “for the development of a nuanced view of reality” (Flyvbjerg, 2006, p. 223).

I had to make a decision between two different approaches: either an in-depth study of one municipality or a study of multiple different processes. I wanted to understand how the process of developing and passing a plan to move a city towards a low-carbon society is both shaped by national regulations and the local context, and what role these different aspects play. I realized that a good way to investigate this would be to look at different ways of solving the task of making a plan, within the same national planning regulations. I wanted to explore the possibilities and weaknesses, and the abilities and constraints, and integrate the element of co-operation and competition between cities. I aimed at developing an understanding of how different local variants

of the same type of plan would play out differently and similarly according to the different local contexts and realities; *What matters and influences in what ways, in different places? How does the role of an institutional entrepreneur play in different institutional settings? How can we understand the role of historical, economic, social and cultural contexts and differences?* The national framework is the same, but the results in specific cities both differ and have similarities. In these reflections, analysis and understandings we can find reflections of transferability, which is discussed in section 3.5.

I decided on the three cities because they fitted my criteria and because the timing for selecting these were good, all three cities were revising their CAPs during my PhD period (further discussion on the selection of cases, see section 1.2). The cases in this study are the three cities. By studying three cities, in fact, three processes, I had to limit the scope of what could be included as relevant data, and which actors were relevant to interview. With the aim of understanding the differences and similarities in processes and outcomes, I decided on a time frame of studying the process from the decision to revise the plan up until it was passed politically, and limiting possible informants to those who had been directly involved in the bureaucratic or political phases.

The three processes were both similar and different, and gave insights into different ways of making plans, of co-operation across and within, and of different hierarchies. They also provided insights into commonalities, themes and problems arising in all three cities (such as conflicting goals and the relationship to the state level). The differences and similarities contributed to a deeper understanding of each municipality; for example, I understood better the in-betweenness of the administration and the political level by observing how in practice this worked differently and was experienced differently in the three municipalities.

3.2 Data production and informed consent

Aase and Fossåskaret (2007) lay out the process of data production, stating that the researcher does not *gather* data, but that data is always produced in an interpretative process. To follow a process with the aim of understanding a situation in its totality requires a multimethod approach. In this section I will elaborate on the process of producing data. First, I will give an overview of the methods used and highlight why these are suitable. Then, I will explain how I went about ensuring data protection and informed consent.

Observation can give insight to how actors interact, both formally and informally, what and how arguments are played out when actors meet and face each other (Aase & Fossåskaret, 2007). Observation allows for a peek into everyday flows (Evans, 1988), but it is “the systematic and intentional character of observations” that distinguishes observation from everyday life, and “for a geographer [this] involves strategically placing oneself in situations in which systematic understandings of place are most likely to arise” (Kearns, 2005, p. 196). Kearns (2005) lays out three purposes of observation: counting, complementary evidence (information gathered before, during or after more “formal” methods), and contextual understanding. In other words, this approach allowed me to both increase my background knowledge before doing interviews, it also provided a useful contextual understanding. The two situational maps on page 71, visualize how in part observation can give such contextual understanding. By examining who participates in which groups and how, a mapping of actors can be done (further reflections on observation and field conversations and how it was conducted in this study, see section 3.2.1).

Field conversations are similar to the everyday conversations between people, and is where “the researcher gets answers to questions he has not asked” (Aase & Fossåskaret, 2007, p. 30). These conversations are linked to observation, both in terms of practically conducting the methods, but also for their role: complementary information and contextual understanding. These conversations are social processes, and a researcher’s knowledge and frame of references are important to establish a

situation where relevant data is produced (Andersen, 2006). Charmaz (2014) urges the importance of listening, watching and reflecting on the interviews, and argues that sometimes “someone will say something that captures and crystallizes what other people indicated in earlier interviews” (2014, p. 90). This reflection, I argue, is relevant for both field conversations and interviews.

Interviews allows for investigation of “complex behaviours and motivations”; collecting “a diversity of meaning, opinion and experiences”; and can fill gaps from other methods (Dunn, 2005, p. 80). A semi-structured interview gives the interview a frame and structure, through an interview guide, whilst allowing for changes to the planned topics and sub-questions. The rigour of interviews is to a large extent based in preparedness (Dunn, 2005), and hence, a process where observation, document analysis, field conversation and literature reviews feed into the researcher’s understanding will give a thorough backbone to doing interviews. I conducted 10–12 interviews in each location (further details on how interviews were conducted and strengths and weaknesses of these data, see section 3.2.2).

Document analysis of both previous CAPs, related plans and media coverage and not least op-eds by the actors, particularly politicians, were key both to understanding the field, analysing the development and as mentioned, preparing for interviews and observation. Secondary data was relevant to the study not only for the CAPs themselves, but also to understand the role of the CAP within the planning hierarchy. I needed to examine and understand some key documents, such as the municipal master plan and city development analyses, and because of my focus on conflicting goals, some key documents from the three cities were also analysed.

To initiate fieldwork, I contacted the project leaders (as they were listed on the web sites of the municipalities) by e-mail, explaining my planned project and asking if it would be interesting for them to participate. I had initial meetings with the project leaders, and for Trondheim, also with the persons closest leader, talking about the project, explaining what I aimed to do, how I hoped to be allowed in on meetings, having conversations etc. Information about the project was sent by email as

documents, and the same was done when I contacted informants, asking if they were willing to do an interview. Hence, all the informants participating by interview were informed and gave consent both beforehand, and I repeated information about the study and their possibility of withdrawing from the interview upon starting the interviews. Consent was also obtained about recording the interview, and the interviews were handled as agreed upon beforehand, and as with the procedures reported to the Norwegian Data Protection Official for Research.

As I had discussed the project and sent information beforehand to the project leaders, this was distributed to the working group and steering group (where applicable) by the project leader, and all members were allowed to give notice if they did not want to participate in the study. Starting the meetings I attended, I was presented, and I explained to the group, as agreed with the project leader, that I would not quote anything said in the meetings directly, but that this would serve as part of my understanding of the processes. We agreed that if anything particular came that I would want to quote or elaborate on, I would ask questions about it in direct interviews, which I did on several occasions. This also gave the participants the opportunity to deny further elaboration if they did not wish to do so.

Table 3 gives an overview of the data sources for this study. For interviews, I have detailed the number of interviews for each city. In order to maintain a certain level of anonymity for my informants, I do not list further details in this thesis. All the interviewed had a direct role in the making and/or passing of the CAP in each city.

Table 3; Schematic overview of data sources

	Bergen	Trondheim	Stavanger
Documents	<ul style="list-style-type: none"> - New and previous CAP - Municipal master plan and social element to this - City development analysis - Documents and plans concerning the new bridge from Sotra 	<ul style="list-style-type: none"> - New and previous CAP - Municipal master plan and social element to this - City development analysis - Documents concerning new road 	<ul style="list-style-type: none"> - New and previous CAP - Municipal master plan and social element to this - City development analysis - Documents pertaining to the location of the new hospital
Interviews	12 local actors planners/politicians	10 local actors planners/politicians	10 local actors planners/politicians
Conversations	<ul style="list-style-type: none"> - Project leader, planners - Planners from the climate department of the county 	<ul style="list-style-type: none"> - Project leader - Members of the working group - Members of the steering group - Planners from the climate department of the county 	<ul style="list-style-type: none"> - Project leader - Members of working group - Planner and head of department from the transportation department of the county
Correspondence common for all three	E-mail correspondence with senior advisor at the Norwegian Environment Agency about requirements and expectations from national level		
Observation	<ul style="list-style-type: none"> - City council meeting passing the plan (1 h) - 2 meetings with city councillor, climate section and invited actors from academia, NGOs, etc. - 2 participation conferences for the new municipal master plan (on transportation and blue-green structures, thematically relevant for the CAP) 	<ul style="list-style-type: none"> - 4 working group meetings - 2 steering group meetings - City council meeting passing the plan (1 h) 	<ul style="list-style-type: none"> - 3 working group meetings - Input conference with local business sector - Semi-informal meeting with county - Meeting with neighbouring municipalities, discussing climate work and possible collaborations - Informational meeting where the working group and consultants presented the CAP to politicians who got to ask questions - City council meeting passing the plan (2 h)
Media	<ul style="list-style-type: none"> - Several newspaper articles concerning the new CAP and the process 	<ul style="list-style-type: none"> - Several newspaper articles concerning the new CAP and the process - Radio debate on the conflicting goals of 	<ul style="list-style-type: none"> - Political debate on the new CAP, led by the regional newspaper - Several op-eds by politicians concerning the new CAP

		road expansion and emissions reduction	- Several newspaper articles concerning the new CAP and the process
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3.2.1 Observation, field conversations and key informants

In Trondheim, the environmental department has a tradition of Friday cake. Every Friday at 2 p.m., there is cake and coffee, and everyone has a Friday when they are responsible for baking/buying a cake. I was included in these Fridays when I happened to be in Trondheim, and these informal and cosy settings provided space for field conversations with an even broader range of people.

Participant observation, field conversations and building relationships with informants take time. However, investing this time also leads to a different kind of understanding, data and consequently analysis (Kearns, 2005; Aase & Fossåskaret, 2007). Being invited to join Friday cake, having a coffee with an informant after a long working group meeting, and engaging with a planner at a conference brought me deeper into the field, in a way similar to fieldwork when conducted intensively. Because a planning process takes at least a year (more often longer), full-time fieldwork lasting a year or more was not a possibility. The field conversations and relationship to the project leaders became important to compensate for this. When talking to the informants after a while, I asked what had happened since the last time we met, following up on issues that had been particularly pressing previously and talking about where the process was at the moment. Additionally, I was in contact with the project leaders by email.

To get an idea of how the everyday process of making the CAP proceeded, I participated in working group meetings, engaged in a number of field conversations, follow-up emails and further talks, and observed working group, steering group and input meetings on implementation. The discussions in these meetings varied according to who was present, what topics were on the agenda and the issues that were to be solved. These dynamics are part of what I wanted to explore, as they present an image

of how climate change is understood, dealt with and incorporated (or not) in municipal planning and city development.

The meetings and discussions differed in the three cities because they are organized differently and their planning hierarchy works differently. However, the participant observation, bordering on institutional ethnography, together with analysis of main documents from the three cities formed the basis of knowledge and data in this study.

A very important aspect of participant observation is the relationships the researcher establishes with her informants (Aase & Fossåskaret, 2007), and the field conversations became a particularly important element in my study. These conversations were not recorded, but I always made notes afterwards, as well as often during the conversations. In the field, I made sure to spend an hour or two alone, immediately after observation and field conversations, to write up as much as possible. These handwritten notes in field diaries later formed part of the process of situational mapping, drawing out situations, ideas and findings; these are the notes and diaries I kept returning to in the analytical stages.

As my informants are highly knowledgeable, and the conversations could both evolve around details of GHG emissions, or on headlines from the local papers. As Aase and Fossåskaret (2007) note, field conversations often involve the researcher talking almost as much as the informant. All informants were aware of my previous job in the Hordaland County administration, and they of course appreciated that my current research had relevance for them. Hence, conversations on the day-to-day work and their frustrations about this and that were coupled with questions about how we had solved issues when writing the CAP in Hordaland some years earlier. The most common question that arose was probably: Did I know of some research related to a particular issue?

The three CAP project leaders became my key informants in the three cities. Even though I conducted formal, semi-structured interviews with all three, the many informal conversations I had with them likely played a significant role in my understanding of the processes, and of how the cities understood and solved issues

differently—given their differing conditions. Moreover, the three project leaders came from different backgrounds, had different experience (and lack thereof) of making CAPs previously, and worked in differently organized departments and political realities. I often made field notes about *the planner who is not a planner*; climate planners do not spend all their working days making, revising and negotiating plans. Most often, the CAP is the one plan they make, and so the process of revising the CAP might be their first encounter with such processes. To varying degrees, this turned out to my advantage because the project leaders had many reflections on the processes, as they were also quite new to them, and these reflections also evolved over time.

I often noted differences in how my key informants talked about events and discussions in conversations straight after a working group meeting compared with, for example, when I asked them about the same events or discussions months later. What is crucial at one point in time can be a parenthesis relatively shortly after, and these differences also formed part of my understanding of the processes.

The working and steering group meetings I attended focused on the text, on the plan to be written, on solving conflicts and on finding common ground between the planners and advisors from different departments. They often involved details and anecdotes, and showcased differences between departments in ways of working and of understanding and situating issues. The first time I attended the meetings, I was introduced, and I emphasized that I would not directly quote anything from the meetings; however, I made notes and my general impression, the topics raised and how things were discussed were part of my understanding. We all agreed that if someone said something that was particularly interesting or well expressed, I would get in direct contact with that person and ask for permission to quote them, which I did on several occasions. I also included some observations and quotes in some of the interviews later on, asking if the informant could explain or reflect further on the matter.

3.2.2 Interviews

The people interviewed and their roles varied across the three cities due to differences in access, but also because of how the different situations gave insights into different phenomena. Using three case cities, it was necessary to draw clear limits to the fieldwork and to how the different cities were to inform the study. This process was a continuous back-and-forth endeavour, but I found inspiration in my fascination for fieldwork and real-life municipal workings.

The actors whom I interviewed varied across the three cities. The three cities have different governance structures, and the contexts differ (as also Westskog and colleagues, 2020, note as relevant in their study). These differences can be explained by a number of reasons.

- Because of how I limited the scope, I wanted to interview people with a direct role in the process of revising the CAP. This led to differences because of how the processes were conducted differently; in Bergen, as the article on Bergen and Trondheim shows (Oseland, 2019), the process was narrow, and working group meetings were not conducted as in the other two cities.
- Because of how the planning process was conducted in Bergen, and because several informants talked about the interlinkages and importance of the municipal master plan and its process, I attended two meetings from that process, on topics relevant to the CAP.
- In Trondheim, access to politicians turned out to be very difficult. For months, I tried to get interviews, both in person, by telephone or Skype. Only one politician finally agreed to do an interview by phone.
- In Stavanger, the process took a long time, principally due to intense political disputes. When the plan was finally passed, I had to make a decision about how to prioritize time to finish fieldwork, and settled on interviewing and focusing on the political and place-related aspects. As I had followed the bureaucratic process closely, including several field conversations with a number of different actors, I had a good broad overview of that part of the planning process. The interviews

with the politicians, on two occasions, both before and after the plan was passed, gave a new dimension to the totality of my data. Because political actors had been more difficult to interview, particularly in Trondheim, this element was missing in the big picture. The project leader of the revision of the CAP was someone I had spent many hours talking to, and with whom I conducted a semi-structured interview.

The interviews were conducted after the plans had been passed, with one exception; four politicians in Stavanger were interviewed both approximately six months before, and a few months after the plan was passed. All interviews started with me giving a brief introduction to the project and my aim, and explaining that they could at any time withdraw from the study. Because some of the informants knew beforehand that I had worked in Hordaland on climate and energy issues, I mentioned this fact to the other informants as well.

I used a general interview guide (see the appendix) to prepare for interviews, and spent some time refining certain topics and questions based on the situation of the person to be interviewed, as well as relevant observations and documents. I aimed at allowing the interviewees to have space to elaborate on the process, their role and take on it, and other central topics. The interview guide allowed for a baseline particularly for my own preparations before each individual interview (Dunn, 2005). I made notes and put in keywords for the topics and general sub-questions depending on who I was to interview. *What did I know about the informant's role beforehand? Had they made a comment about something earlier I wished them to elaborate on? Was their background particularly interesting?* By doing this I was able to trace certain elements of the processes, of expressions or interlinkages. For example, in the debates in city council in Stavanger, many of the politicians linked the questions in Stavanger to much broader, global debates and responsibilities – I wanted to know if this was a part of the discussions between the parties as well, when they negotiated. By asking the different politicians to describe what happened between the different meetings, who did they talk to, how did they discuss the plan, possible targets etc, I got a different

understanding of their reasoning than from the city council interactions. At the same time, the interviews alone would not have given me the same insights as the combination of the two.

I ended the interviews with the same/similar questions: Do you think the goals set are possible to achieve? (why/why not?) If you could implement a measure tomorrow, what would you do? The answers to these questions varied greatly, but they always gave new perspectives and dimensions to my understanding of the situations, of the differences in the context of the three cities, or of the role of the interviewee.

I performed a strategic transcription of the interviews, that is, I transcribed what was particularly relevant to the process, relationships, political differences, mentions of conflicting goals, and made notes on other topics, so that it would be easy to go back and transcribe interviews fully if it proved useful at a later stage.

However, I repeatedly listened to the recordings of interviews, taking notes on different perspectives, and revising notes from observations and making maps. Along with my notebooks, my main tools in the fieldwork and analysis were sheets of A3 paper and a pile of coloured markers. This iterative process involved linking findings, revising them, reading the background theory, and linking back to findings; then, revising the differences between the three cities, and investigating the commonalities once more. In paper #1 on the processes in Bergen and Trondheim, comparison and then looking at the processes together gave very different insights compared with looking at them separately. In the case of Stavanger, and particularly paper #2, the context, the particularities and the need to tease out details to show the contextual flavours made comparison with the other cities difficult. Because of these differences, in narrowing down the interviewing process, I was guided by observation, field conversations, document analysis and the transcription of the city council debates when passing the plans.

3.2.3 Strengths and weaknesses of the data summarized

Doing extensive fieldwork and the following processes, I ended up with a large set of data. The main strength of this is the variety, and in particular, the number of

observations and field conversations, document analysis and media coverage, as a basis for interviews. I was given relatively good access, although not to everything and I could not participate in every meeting; moreover, access to meetings varied somewhat between the three cities. Because of the understanding and mapping I had done through observation and document analysis; I was able to structure and get more out of the interviews than I would have without this basis of knowledge.

One specific weakness is that I did not have access to exactly the same kinds of informants in the three cities. However, my aim was not to use the data from the three cities as a means to compare data that are not in fact comparable, but as a means to elucidate a broader set of questions, and to understand how the same national framework both gave different local replies and also similarities and differences in bottlenecks and opportunities. The interviews conducted in Bergen and Trondheim were more similar to each other, and hence suitable for showcasing the differences between the two. In the case of Stavanger, the process could have served as comparison. However, as the political dimension and debates became clearly highlighted, and unique, I decided to place focus on these issues when conducting the Stavanger interviews. Nonetheless, this does not mean that I overlooked the administrative process, but rather that the interviews revolved around the political process.

3.3 The situated researcher doing analysis

The cases chosen, the setting of boundaries to what is considered the field, and the situation both in time and relationally are all part of the researcher's project design, and hence they form the picture the researcher draws of the reality to be studied. Vinge (2020) discusses situational analysis as a tool to open up data to make differences and complexities visible, and argues that what appears to be important in the situation should guide what to include in the analysis. Wanvik (2017) notes that a "keen eye, open mind, discerning ear and steady hand" (p. 49) make analysis and empirical understanding more important than mechanical reporting.

Before returning to the academic realm, I worked for Friends of the Earth for a while, and later in the Hordaland County administration where I worked on issues of energy and climate, and had a role in the revision of the county's CAP (passed in 2012). I had some ideas about bottlenecks in climate planning and mitigation, although I was not in the job long enough to develop more than questions and working hypotheses—not to mention that there is little time during working hours to reflect fully on such issues. However, some of those ideas shaped my initial research plan; indeed, the last article in this thesis addresses what I had come to realize—becoming the last question I tackled during my PhD—was the main obstacle to municipal climate transformation, namely the complex core issue of conflicting goals.

My previous job meant that some of the potential informants in Bergen (the regional capital in Hordaland) knew who I was and what I had worked on before. In the interest of full disclosure, I did not hide the fact that I had previously worked on climate change and energy in Hordaland, but informed my key informants in the other two cities about this during our first meetings. In other words, I was both an outsider as a researcher, as well as an insider who had some experiences similar to those of my informants. This became both a strength and probably also a weakness. In interviews talking about sensitive issues and matters that were particularly difficult (such as the relationship and in-betweenness of administration and politics and of cross-sectoral differences and challenges), we could talk about this and agree on how these matters could or should not appear in the thesis and articles. On the other hand, I had assumptions, ideas and experiences that naturally shaped my starting point. I might have developed different sets of sensitizing concepts, and a different understanding of the process and the differences between the cities. Thus, in other circumstances, I might have settled on one city instead of three.

How my key informants related to me was influenced by my previous role in different ways, and was also influenced by the status and experience of the informants themselves, and the degree to which the city had participated in related research projects before. Trondheim is a prominently situated university city, although the university has a predominantly technical orientation. Bergen has a broad university,

while the very young university in Stavanger used to be a university college and has until recently had a typically applied focus.

Both Trondheim and Bergen had project leaders with previous experience in participating in similar processes; in contrast, this was a new experience for the project leader in Stavanger. The unit responsible for organizing the process was at that time quite small, and dominated by renovation and environmental tasks. Hence, the informant from Stavanger saw participating in a PhD project as a way of developing a better understanding of the process and the task ahead. Thereby, the questions I asked and the reflections this led to were part of this informant's own process. It is difficult not to influence others in one's field when undertaking participant observation with a series of field conversations, and this became very clear in many situations during fieldwork. A similar situation arose when closing an interview with a land use planner in one of the cities. The informant said that the things she had talked about in response to my questions were all matters that kept "humming in the back of my mind" in her everyday work. However, "I never have the time to think through these thoughts fully, to allow the full line of reasoning to play out"; the planner thanked me for creating a space for reflection.

3.4 Situational analysis provides directions for fieldwork and analysis

Situational analysis is a methodological approach in which a situation becomes the unit of study and the mapping of the situation a prominent analytical tool (Clarke, 2007). Clarke (2005) sets out an ambition of pulling *grounded theory around the postmodern turn*. Grounded theory provides a systematic and flexible design for data production and analysis, in which theory is grounded in the empirical basis (Charmaz, 2014). "Analysis begins as soon as there is data" (Wanvik, 2017, p. 48). Clarke uses this notion as a starting point, but brings in more aspects of the situation:

What I propose is to supplement basic grounded theory with a situation-centred approach that in addition to studying action also explicitly includes the analysis

of the full situation, including discourses—narrative, visual, and historical. (Clarke, 2005, p. xxxii).

Situational analysis allows for a broad range of input to understand situations by allowing the researcher “to draw together studies of discourse and agency, action and structure, image, text and context, history and the present moment—to analyse complex situations broadly conceived” (Clarke, 2005, p. xxii). In situational analysis, the mapping and coding of data are a way for the researcher to get to know her data material, her field and the situations, not primarily to generate theoretical concepts. In other words, research is a continuous process of learning (Vinge, 2020). This mapping allows for the situation to become “*the ultimate unit of analysis*, and understanding its elements and their relations is the primary goal” (Clarke, 2005, p. xxii).

In my case, the situation involves the process of making a CAP and passing it in the city council, and is thus the analytical starting point. Following the processes—observing meetings, multiple field conversations, interviews, reading previous plans, the drafts of new plans and the final documents, the political debates in the city council, and the media coverage and op-eds, in other words, the complexity, the discourses, the knowledges, the particularities and commonalities—provided me with a picture, a sort of situational map. I did this mapping analogically, either in my notebooks, or when back at the office on sheets of A3 paper using different coloured markers. I kept coming back to my notes, ideas and question marks in my notebooks, continuously returning to the data and developing ideas from the field.

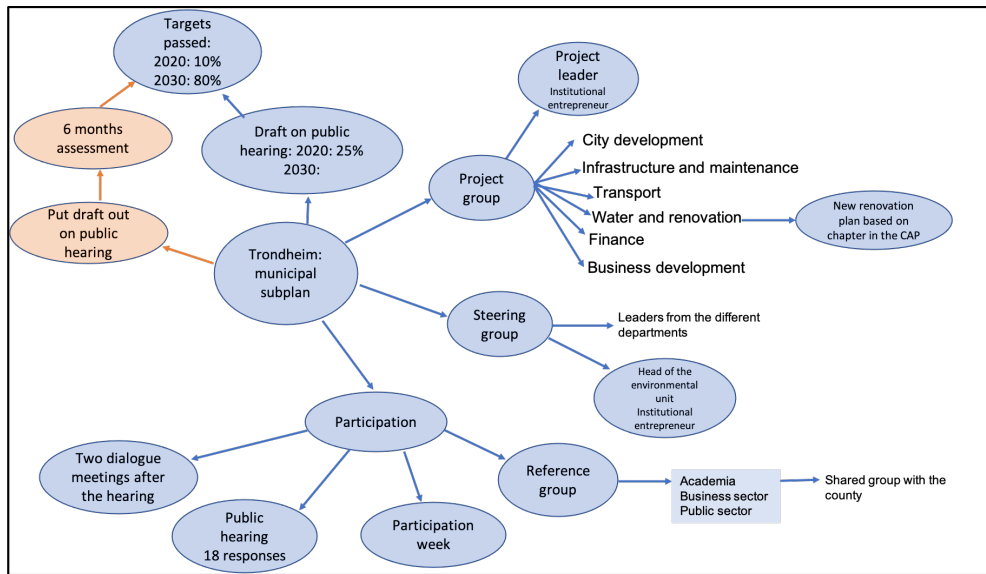


Figure 7: Situational mapping of the process in Trondheim. Blue is the administrative process and administratively led participation process, and orange is the political process.

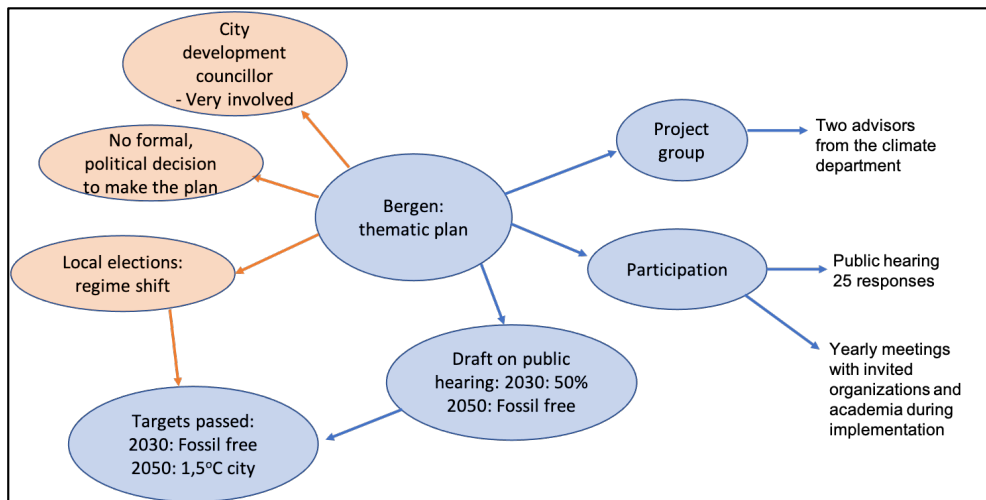


Figure 8: Situational analysis of the process in Bergen. Blue is the administrative process, orange is the political.

Before, during and after fieldwork, I took notes and drew maps that were based on a concept, a situation, a thought, a comment or a difficulty. I did this for each city/process, and I did versions in parallel, where the different cities and their different ways of working shed light on each other. (As these reflective processes were done in Norwegian, by hand, I do not include all maps here.)

I must note here that situational analysis inspired the way I systematized my data, that is, the way I interacted with the data. Although the articles that make up this thesis are not necessarily situational analysis as such, the process of deciding what is important, which nodes were key and particularly relevant to explore further, was one of mapping. I am intrigued by the flexibility that situational analysis entails, and by the multiplicity of data sources, which all answer, or pose, small questions, thereby forming a broader whole, a map of sorts:

Framing systematic and flexible means of research design that facilitate multisite research, including discursive textual, visual, and archival historical materials and documents, as well as ethnographic (interview and observational) transcripts and field notes to more fully take into account the complexities of postmodern life. (Clarke, 2005, p. xxxiii)

3.5 Multisited study, comparison and finding sensitizing concepts

Urban researchers have been reluctant to do studies comparing different cities (Pierre, 2005; Robinson, 2011). Pierre (2005) wonders if this is due to a fear of reductionism, as comparison “requires a robust analytical framework defining the variables to be compared, leaving out as much contextual ‘noise’ as possible” (2005, p. 447). A fear of leaving out too much context is definitely a fear I had when starting and developing this project. This study can be said to be comparing three processes, and it definitely has some elements of comparison. For example, paper #1 compares the two processes in Bergen and Trondheim. However, rather than a structured comparison, it is a study that draws insights from the idea of thinking place (or in this case process) through

three case cities, similar to what has been called *thinking through elsewhere* (Robinson, 2016). Of course, a standard structured comparison would have been complicated by the fact that planning and governance processes in the three cities are influencing one another.

In this sense, the approach I have chosen is inspired by the idea of relational comparison. Ward (2010, p. 480) highlights that a relational comparative approach to studying cities will “recognize[s] both the territorial and the relational histories and geographies” producing the urban. Robinson argues that thinking cities through elsewhere, such as a “another case, a wider context, existing theoretical imaginations derived from other contexts, connections to other places” (Robinson, 2016, p. 5) can expand conceptualizations and understandings of the urban and urban processes.

The problem of saying something general, or overall, about urban processes or aspects of the urban can be overcome if certain understandings are met regarding the relationship between situations and instances (perhaps repeated) and the concepts these instances generate: “the methodological tactics and philosophical conventions which allow navigation amongst different instances in the process of building conceptual understanding” (Robinson, 2016, p. 4). Robinson argues that the foundation of comparison is the use and development of concepts, across a range of different cases. This is also at the core of situational analysis. It is particularly relevant to find and define the *sensitizing concepts*; we understand sensitizing concepts as suggestions of where to look, in contrast to definitive concepts that refer to what is common to an object (Clarke, 2005, referring to Blumer 1969). Instead of searching for theorizing, the aim is a ‘thick’ analysis. Through the comparison of differences, contradictions and complexities can stand out.

The process of finding sensitizing concepts as discussed and explained above, is an important part of the *transferability* of the case study. Whether a case study can be of use and say something relevant of similar situations elsewhere is what the scientific goal of transferability asks. Robinson (2016) states that efforts of theorizing urban

processes will always link “insights gained in one context in relation to a multiplicity of urban experiences” (2016, p. 4).

When mapping and working on finding the common ground—the common sensitizing concepts—I kept dialoguing between the literature (theory) and the field (my data and sources). My field and focus are much less diverse and less global compared with what Robinson (2016) discusses. However, using multiple sites and situations to study urban low-carbon planning and transformation results in having multiple answers to the same questions. The different cities respond differently even to the same PBA and national expectations, not just in terms of the outcome of the plan, but in the process of making it.

However, certain topics recur: bottlenecks of implementation, the lack or existence of political will, internal hierarchical structures, vague and multifaceted national responsibilities and decision-making. Figure 5, at the end of chapter 2, illustrates the conversation between the literature reviews of both transformation and planning and my empirical mapping. Three main nodes stand out in all three cities, although in different ways: (a) institutional silos, both horizontally and vertically, were prominent issues in all municipalities; (b) political will and political discourses; and (c) conflicting goals, related to major infrastructural investments and including lock-ins and path dependencies as sources of the major obstacles for transformation.

3.6 Assessing the data: Validity and reliability

Part of the purpose of a methodology chapter is to ensure transparency of the research process, and to demonstrate choices made. It involves, in other words, laying out the validity and reliability of the study (Mansvelt & Berg, 2005). Reflexivity of both the process, the data, their quality, the analysis, conclusions and the researcher’s own role are important and ensures validity and reliability. Some of these concerns have been addressed elsewhere in this chapter. In section 3.3 I reflect on my own situatedness and biases. Section 3.5 discusses the process of finding sensitizing concepts, relational comparison – in large discussions of transferability and validity. Section 3.2 presents

both which methods are used and why, details on how I have applied them and reflections on strengths and weaknesses on the data produced.

To conclude this chapter on methodology, I will draw together points from these other sections to shed light on how I address validity and reliability.

3.6.1 Validity

There are different ways of distinguishing between validity and reliability, not to mention discussions of whether these concepts are relevant for qualitative research at all (Golafshani, 2003). Reflections of a study's validity concerns credibility (Creswell & Miller, 2000), or an assessment of the interpretations of the data, and whether the analysis and conclusions are "valid in relation to the reality studied" (Thagaard, 2009, p. 201, my translation). Creswell and Miller (2000) present several possible procedures to test the validity of qualitative studies, such as triangulation, thick description, member checking, peer debriefing, and so on.

The key strategy for me has been to validate my study against realities "on the ground". Testing of assumptions, hypotheses and analyses can take on many forms, both inherent in data production, through interviews and field conversations, through processes of peer review (as all three papers in this thesis), and through communication of findings and analysis. To me this latter has been important. For example, in a book chapter in a popular science book, Håvard Haarstad and I discussed conflicting goals and their role in climate transformation (Oseland & Haarstad, 2018). The third paper in this PhD develops our ideas further. The book chapter and a presentation of it at Hordaland County's Planning conference in October 2019, became a way of testing the concept and my take on deconstructing and analysing it vis-à-vis planners and practitioners. By presenting at both an academic conference (Nordic Geographers Meeting in 2017) and a planning conference, I was able to test validity of the analysis both theoretically and empirically. I received much feedback, confirming that this is a very relevant topic, as well as the viewpoint that this is a very difficult issue to approach as a planner. However, breaking down the

conflicting goals into several subunits made sense and opened up a way to debate them, even from the perspective of a municipal planner.

As another example, for paper #1, I sent the section describing the processes in each city to the two project leaders, asking if they agreed to how I had portrayed the processes, hence testing the validity of the presentation of the empirical data.

3.6.2 Reliability

Reliability asks if the study has been conducted in a reliable way, and ideally, if it would be possible for another researcher to reach the same results and conclusions had they used the same approach (Tønnesen, 2015). Reliability requires examining accuracy and consistency of the collected data, and a key to ensure this is transparency. Presenting details of how the data were produced, as I am doing in this methods chapter, and reflecting on strengths, weaknesses and gaps, as done in section 3.2, are important to ensure this transparency.

Of course, interviews, observation and conversations are all shaped by social settings and processes taking place in a particular time. Hence, they are context-dependent and very much influenced by the relation and understanding between the actors, and problematic for another researcher to duplicate. However, Andersen (2006) argues that active interviewing does not necessarily create problems of reliability, but can in fact create good ways of dealing with challenges of reliability. This is dependent on the analytical structure of the researcher, and of course, what questions are asked, the level of detailed knowledge the researcher has, as well as the researcher's ability to actively engage and do follow-up questions. By exploring as many angles as possible and shedding light on as much as possible on the complexities of the reality studied, the researcher will improve the chance that other researchers, pursuing a similar approach, would reach the same conclusions.

4. Conclusion

In this final section of the introduction, I will use the findings from the articles to sum up the lessons from this study, and reflect on transformational possibilities and constraints local climate planning. In this PhD-project, the overarching aim has been to explore the question *what role does a climate and energy action plan play in municipal transformation to a low-carbon society?* I operationalized the main research question into several subquestions, which correspond to the empirical and theoretical basis of the articles. Through observation, field conversations, interviews, document analysis (both planning documents and media coverage and op-eds), data was produced. Using the data and continuously mapping empirical nodes from each of the three cities, of ideas and insights developed through literature reviews and a constant dialogue between my cases and the literature, certain topics emerged as recurring features. Looking at commonalities and differences and returning to literature and research, a trio of central topics stood out as particularly relevant. A) The silos inhibiting cross-sectoral cooperation; B) How local context (history, economy, material, social and cultural traits) shape frames and hence what is regarded as possible, desirable or unrealistic; C) Conflicting goals, and how they are understood and managed. These findings are interconnected, and they play a part in the puzzle of municipal possibilities and constraints in the work of converting cities into low-carbon societies.

In this final chapter I will present some key findings from the three papers, structured by the three subquestions, before I explore the potential for local climate transformation in sections 4.4 and 4.5.

4.1 How can planning processes contribute to disruptive, institutional climate work?

The institutional silos in governance are highlighted both in literature and by practitioners as a major barrier to efficient and mainstreamed responses to climate change. In the first paper, *Breaking silos: can cities break down institutional barriers*

in climate planning? I examined the processes of revising CAPs in Bergen and Trondheim. By looking at the situations of revision in both Bergen and Trondheim, both places' features became clearer. The two processes were very different, even though they played out within the same national framework of soft regulation.

The literature review and empirical work demonstrated that to break down institutional silos three factors were particularly important: a broad process, political will and institutional entrepreneurs. Neither of the two case cities were prominent on all three features. The case of Bergen demonstrated the role of political will, and the institutional setting of having a parliamentary municipal system allowed certain politicians to be hands-on with the work of making the CAP. However, the CAP did not follow the process of the PBA, and through a lack of clear definitions starting up the work, it did not involve a broad planning process which would have allowed a wider cross-sectoral process.

Trondheim followed the process as laid out in the PBA and guidelines, had a broad process, both internally in the municipal administration, and with collaboration with relevant actors in the city focus was on integration and mainstreaming at the institutional level. Two institutional entrepreneurs were highlighted as particularly important to the process: the project leader and the Head of the Environmental Unit (where the Climate Section is a part). The first was important for including and building a broad, horizontal process, and the second was important for working thoroughly on vertically embedding the plan and its principles in the municipal system. However, the regime in Trondheim involves a sharp divide between the bureaucratic and the political sphere, and it is in this setting one of my informants expressed what this thesis starts with: "It is really challenging to sit quite far down the hierarchy and make a plan to change the society".

The two cases, particularly when discussed in parallel, shed light on the complexities of local climate governance and politics. The role of politics and the role of planning are both interlinked, and they differ. Whereas planning and the bureaucracy have their hierarchies and sectorial divisions, both hierarchically and horizontally, urban politics

both can and does move between scales and themes (Ward, 2010), and is contingent upon different, though overlapping, sets of variables than urban planning. The space and relationality between planning and politics, bureaucracy and making visions is a particularly crucial element in local governance, and perhaps especially relevant for local climate governance.

4.2 How does the local context shape political and policy frames of low-carbon transformation?

In the literature on urban low-carbon transformation, the role of political will is often pinpointed as crucial and a field in need of more research. As a geographer, I was also concerned with how politics and premises for political debates differed across the three cities, and that the context, broadly conceived, of the local politics seemed to play a significant role in the debates over climate targets. The case of Stavanger stood out. The so-called oil-capital of Norway, with the aim of rebranding itself to an energy capital, debated for months whether the goal of the new CAP should be 40% or 50% by 2030. In the last round in the city council (the eighth round in different committees for the plan), the main goal was once again the key debate, and the politicians voted for 80%. To understand how this change came about, I focused on the political debates, how the actors mobilized, and how they framed their understanding of both the CAP, the problem of climate change, the role of Stavanger as agent of change, and inherently; how the actors embedded their reasoning in *place* and *scale*.

The politicians in Stavanger mobilized for and against the ambitious target of 80% reductions by 2030. Particularly the politicians arguing for the most ambitious goal, used the cultural and historical narrative of how Stavanger, a poor city reliant on fishery and canning factories, became the Norwegian oil capital, as a main argument for a low-carbon transformation in the upcoming decade. By mobilizing this narrative, the city's transformative capacity was highlighted, which in turn made space for some politicians and parties to change their view on climate change as a matter for local climate governance and politics. Their understanding of climate as an issue for Stavanger became rooted locally, to be achieved at the local scale, whilst arguing for a

global responsibility. The politicians arguing against the measures, defined the plan as unsuited for the problem – climate cannot be addressed at the local scale. Additionally, their arguments were rooted in a cost-benefit analysis – “more efficient solutions can and should be found elsewhere”.

A new narrative had been built in Stavanger, where a bridge had been made over the paradox of local transformation and oil production, in which the idea of *clean* oil production is part of the solution. This paradox in Stavanger, is the local version of the Norwegian, national paradox: to be a climate leader, whilst also continuing both production and expansion of possible oil fields.

The case of Stavanger, and the analysis using framing, shows the importance of including a broad understanding of the specific context, to understand both possibilities and constraints to local low-carbon transformation. Planning for transformation is not a one-size-fits-all issue, and even though networks, both national and international, influence and broaden the local perspectives, the transformation will have to take place locally. To get a grasp of the possibilities and constraints to local transformation, it is necessary to understand the historic, social, economic and cultural context and contingencies.

4.3 How can we understand conflicting goals in local planning and politics, and how are they dealt with in municipal planning?

When asking informants about the bottlenecks for actual emissions reductions, conflicting goals and lock-ins came up time and again in different versions. Conflicting goals was also a subject that was experienced to be *out of reach* for the planners. Hence, there was a need to operationalize and understand what these conflicts between goals and measures towards low-carbon societies stem from, how they play out, and how local governance and politics manage them.

The conflicting goals, or perhaps, a materialization of wicked problems, are without a doubt at the core of constraints to urban transformation towards low-carbon societies.

The argument posed by Newell (2015) that research has tended to look at the governance of transitions, rather than the politics of transformations points to a duality which is very much present in issues of conflicting goals. Whether the conflicting goals are internal to a municipality, or have scalar features, they have their roots in both politics and policy, in sectoral divisions and institutional rationalities, discourses and regimes – and will entail a shift in priorities and values, a *shift in paradigm*, in order to be solved. In other words; changing how the conflicting goals are solved (instead of evaded) is a matter of transformation.

In paper #3, *Displacing conflicting goals in planning for sustainability, insights from three Norwegian cities*, I (with co-author Håvard Haarstad) investigated how municipalities handle conflicting goals in practice. Based on empirical discussions, we highlighted three different strategies of displacement: *temporal* – putting off contradictions to future decisions; *sectorial* – contradictory goals become hidden by sectorial divisions of labour in governance systems, and *scalar* – divisions of responsibilities are often both unclear and contested between local, regional and national authorities. The planners in the municipalities are well aware of the conflicting goals. However, we find that conflicting goals are the result of and maintained by differences in knowledge and in institutions and their rationalities and by material structures.

However, we conclude, agreeing with Castán Broto (2015), that contradictions can play a constructive role in transformations. By bringing the conflicting goals up and onto the table, making visible the decision making and inherent logics and rationalities, new ways of solving and weighing the conflicts can be found. Whilst niche shifts and transformations entail profound changes within that sector, societal transformation will have to involve changes and shifts in how interests and knowledges are weighed and how priorities are landed. Hence, an understanding of conflicting goals, the debates concerning them and decisions made in these issues, can be an indicator of how far a transformation process has come, or whether the incremental steps seen in society are just that, steps in a sustainable direction, but without a profound, paradigmatic shift.

4.4 What role does a climate and energy action plan play in municipal transformation to a low-carbon society?

Places are particular, and hence, transformations will be particular. However, to understand these particularities, it can be fruitful to examine the processes and the places in light of other places and processes (Robinson, 2016; Ward, 2010).

This study, this dissertation, has shown that proactive cities lead the way. Even though they still have a way to go to institutionalize and mainstream climate change into all spheres of municipal work, they both actively and subconsciously attempt to break down silos (paper #1), bridge paradoxes (paper #2) and have started to lift the conflicting goals up and into the light (paper #3). However, it appears as if there is a glass ceiling. Even though a number of measures have been implemented to reduce traffic, for example, it is still the largest portion of emissions for the three cities studied. Even though a hospital is located into a central neighbourhood and plays an active role in the construction of the compact city (Trondheim), in other cities, decisions of where to place such crucial institutions can lay grounds for the opposite (Stavanger). There is an urgent need for the national and international arena to pick up the ball again, to prove its ambitions and abilities. Cities can change, transform and substantially move in a low-carbon direction, however, the national (and global) conditions and structures they operate within will limit the extent of the transformation, because the regulative tools allowing for structural, long-term change, must be developed at the national level.

Planning for transformation means to make a plan for changing society – in a fundamental way. A shift to a low-carbon society will have to tackle the basics – not just how much we emit when we move about, but how we move about, and how much. Not just how we recycle and reduce our waste, but how much and what we consume. The very production regimes of the goods and services we consume. There is a crucial role for the local level to play in this, as we all live, reside, consume and move in and from particular places.

The role of politics and the role of planning are interlinked, while they also differ. Whereas planning and the bureaucracy have their hierarchies and sectorial divisions, both hierarchically and horizontally, urban politics both can and do move between scales and thematic (Ward, 2010), and is contingent upon different, though overlapping, sets of variables than urban planning. The space and relationality between planning and politics, bureaucracy and making visions is a particularly crucial element in local governance, and perhaps especially relevant for local climate governance.

In the findings and contextual analysis of the present thesis, there are several instances and situations of paradoxes being bridged. Can we see these as working contradictions (Castán Broto, 2015), temporary armistice (Campbell, 2016) or a foot in each paradigm (Øksenholt & Tennøy, 2018)? In paper #3 we find different strategies for displacing and hence evading to solve issues of clear contradictions. It could be argued that the municipalities do not have much to say in questions of conflicting goals across scales and across municipal borders.

4.5 Studying and identifying local climate transformation

Looking across the subquestions and the papers that address them, it becomes clear that processes of making and passing CAPs can open up discussions, pinpoint barriers and contingencies, and highlight the challenging decisions a city has to make. The debates over whether a highly ambitious goal or a more modest one is the best solution can also demonstrate different understandings of how climate change, lock-ins and the role of cities are interlinked. Arguably, plans with aims to transform can, through maturation, revision and implementation, become incremental steps which can break silos (see paper #1), leading to paradigmatic changes (see paper #2) and hence transformation. But the planning process must be dynamic and open, making use of multiple ideas, knowledges and tools and with aims of institutionalization. As I show in this thesis, there are more than a few hindrances and contingencies, both in silos, discourses, preferences, lock-ins and scalar frictions (papers #1, #2, and #3).

The form of transformation discussed here, is therefore, a gradual one. In section 2.2.1 I explore the notion of *hurrying slowly*; asking whether transformation can be achieved through several, gradual steps. The tension between the urgency of climate change and the rigour of (local) governance and government regimes becomes a new level of wickedness to the problem. However, it is what we have at hand. There are substantial efforts to hurry slowly. And there is a need to further study these efforts, as cases and in light of each other.

By studying processes of making and passing CAPs from administrative work to political debates and council voting, the dialectics of the *transition of climate governance* and the *transformation of climate politics* (Newell, 2015) become visible. The need for gradual steps, for policy mainstreaming or integration, for ensuring and securing ownership in all parts of the municipal organization constitutes a very real and necessary transition within the municipal organization and planning hierarchy. At the same time, these gradual steps and processes of mainstreaming are both made possible and supported by ambitious politicians aiming at transformation – searching for paradigm shifts. However, the many conflicting goals and barriers also express the need for a feedback loop – lifting, discussing and making clear and visible the consequences of conflicting goals, and the very need for decision making at the cost of other measures.

I have also pointed to interconnections and in-betweenness which shape the transformative outcomes of planning. In local climate planning, there are several in-betweennesses, that are both context-specific and unique, but which also share some dynamics and traits. There is the mentioned relationship between planning and politics, and also between the urban fabric and the local planning and governance regime. The *in-betweenness* and dialogue between these two crucial aspects of local climate planning is key, and where, I argue, a local transformative potential resides.

Initially, I framed the thesis with the words of the planner reflecting on the task of making a plan with a goal to change society, from the midst of a hierarchy. For the climate planners in a municipality, their level of power will be contingent upon the

political decision making – in other words, how their expertise and field of work is prioritized, or not, in the municipality. Or in the framing of Rydin (2007) and Campbell (1996, 2016): how the climate knowledge is negotiated with other knowledges or interests in the planning process and political decision making. As I have illustrated in this thesis, tracing this development, or maturing, of the role of climate (knowledge) can be a way of further studying the possibilities of local transformations to a low-carbon society. I have identified factors of both bureaucratic transitions and of politically shifting paradigms, and of how the conflicting goals are still very much at the core of the wickedness of climate change for municipal transformation. As climate moves from being the topic of a few persons in a far end corner of the municipality, to being integrated, institutionalized, but more importantly, being a topic or concern that can turn decisions around, researcher can trace actual transformations and pinpoint tipping points. That is what this thesis is an attempt at contributing to.

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Appendix

Interview guide

1. Interviewee's role in the process
 - a. Everyday work and roles
 - b. Participated in the process of the former plan?
2. What kind of plan is this?
 - a. Political decision/point of departure?
 - b. How is it situated in the municipality's planning hierarchy?
3. Describe the process
 - a. Who are involved? How?
 - b. What has been the most interesting in the process?
 - c. Most challenging?
 - d. This process compared to the last CAP?
4. Participation processes
 - a. Have you had any participation processes?
 - b. Describe them?
 - c. Reflections on outcomes and relevance?
5. Political process
 - a. Has the political level been directly involved? How?
 - b. Elections, how has this affected the process and outcomes?
6. What are the main bottle necks for implementing this CAP?
 - a. Examples of conflicting goals?
 - b. Relationship with other levels of public governance
7. Collaboration and networks
 - a. Local networks of relevance?
 - b. Do you participate in national or international networks?
 - c. Relevance for the planning process?
8. Do you think the goals can be reached?
9. If you had full political and economic power and resources tomorrow and could implement ONE measure – what would that be, and why?

Paper 2

Lifting the Fog of Oil? Exploring the Framing of Ambitious Local Climate Politics in an Oil City

Abstract

How can an oil city pursue ambitious local climate politics and policies? Through a critical discussion of the process and debates over the making of an ambitious climate and energy action plan (CAP) in Norway's oil capital, Stavanger, this paper dissects the paradoxes evident in pursuing local climate policy and politics in a city with high dependence on oil revenue and an identity closely tied to the oil industry. With an analysis of how different actors frame place, scale and knowledge, the paper explores politicians' arguments, understandings and contestations, revealing how such a plan came into being. The analysis shows a discrepancy in how the actors understand climate change in terms of scale, whether it is an issue suitable for local governance and politics or not, and how they regard the city's potential role in climate transformation. By mobilizing Stavanger's past transformation from a poor fishery city into an oil capital to a future as a low-carbon sustainable city, the idea of the city's transformative capacity became clear. This made space for politicians and parties to change their view on climate change as a matter for local governance and politics, culminating in the passing of a very ambitious CAP. In conclusion, the paper reflects on the importance of local framings within processes of sustainable transformation.

Keywords: Local climate planning, local climate politics, Stavanger, framing, context, knowledge

Introduction

The story of Stavanger and the oil is also the story about the modern Norway. It is in Stavanger that our national oil history begins.

(Gjerde 2002, 11, my translation)

In December 1969, when the Norwegian government was informed about what turned out to be one of the largest oil reserves to be discovered at sea, Stavanger politicians and businessmen knew that this could be the beginning of the new industrial fairy tale that they had been searching and working for. After decades in economic recession, Stavanger established itself as the country's oil capital. Over the years, it became known nationally and internationally as the country's oil city, and gained significant wealth from the industry. Which is why it was both surprising and controversial, when in November 2018, the Stavanger city council passed a climate and energy action plan (CAP) with a main goal of reducing greenhouse gases (GHG) emissions with 80% (compared to 1991 levels), by 2030. This highly ambitious goal was in line with the goals of the other very ambitious largest cities in Norway, and double what the national authorities are aiming at. In other words, the Norwegian paradox of wanting to become a world leader in the fight to combat climate change whilst maintaining its most important export, became local. Stavanger's role as an oil city is profound; it is a matter of history, culture and wealth, involves political craftsmanship and concerns numerous workplaces. Hence, the first words by the politician who opened the two-hour long debate in the Stavanger city council over the CAP were:

When the fog of oil occasionally lifts over our region, even we, the inhabitants in Stavanger, see the large and clear picture of the climate challenge.

This development in Stavanger points to some broader questions of interest beyond the specificities of the case, concerning how such oil-dependent cities and

regions adopt ambitious policies and plans. The point of departure for the discussions and analysis in this paper is the passing of a highly ambitious CAP in a fossil-dependent city with poor previous results on climate mitigation. The key question in this paper is therefore: How can different framings open up, or close, different levels of ambition in municipal climate planning? The research question leads way to explorations of (1) how actors framed their arguments in support of the highly ambitious climate goals in Stavanger, and (2) how the contestation of the most ambitious climate goals was framed.

Research on planning insists that planning is a dynamic exercise (Liao, Warner, and Homsy 2020; Kaza 2019; Tang et al. 2010). Hence, making and revising plans is in itself a way of revitalizing the presented topics. Making sense of climate change, a global phenomenon with local consequences and causes, will hence be interwoven with place itself, and actor's understandings of their place. A central feature of climate planning, is the setting of goals. This is most often a political act, and sometimes criticized for being a game of "think of a number" (in other words, the target is considered somewhat random and potentially unrealistically ambitious). Hulme (2015, 902) argues that these goals matter, and that they 'need clear articulation, drawing upon the range of cultural beliefs and political values that are held'.

In this paper, a theoretical perspective on framing is central to the analysis: how actors frame their understanding of problems, possible solutions and contestation, is shaped by the local contexts within which politics and policies are developed. The paper holds that a focus on political and policy frames reveals important insights on the possibilities of local, rapid and profound transformation. The urban is continuously brought forward as a key level to both mitigation and adaptation efforts and cities are

stepping up and taking a lead whilst national states appear to have tied hands (Grandin and Haarstad 2021; Castán Broto and Bulkeley 2013). Hence, understanding how actors in cities frame the problem and possible solutions can give new insights into possible transformation pathways. In this contribution to the literature on local climate transformation, I argue that there is a need for research to pay close attention to how actors frame their reasoning, in understanding a city's abilities and willingness to plan and act in line with a low-carbon future. Framing is here understood in line with Romsdahl, Blue, and Kirilenko (2018, 279) as 'the ways in which problems are defined, causes diagnosed, judgments made, and remedies suggested'. To understand the political will to act and the possibilities of local policy-making in light of the need for rapid and profound transformation, it is therefore relevant to examine how the discussions on these issues are framed, because 'it is necessary to reveal the underlying reasons for disagreement about how to act in response to climate change *before* it is possible to find constructive ways of acting politically in the world' (Hulme 2015, 894).

In the following I will first give a brief introduction to climate planning in Norway, before I present the theoretical framework. First by discussing the concept of framing, and then operationalizing it through context and knowledge.

Climate planning and discourses on climate change in Norway

Climate planning in Norway is compulsory, according to the 2009 Planning and Building Act, and municipalities can comply either by making a separate climate plan, a municipal subplan, or by integrating the topic into the municipal master plan. However, there are no sanctions if a municipality chooses not to do this, thus, the Act is regarded as a soft regulation (Kasa, Westskog, and Rose 2018). The plans are supposed to be revised every four years; however, few municipalities have done so.

In the national Norwegian context, two nationally dominant discourses on climate change are often pointed out: ‘national action’ and ‘thinking globally’. National action refers to a focus on restraining national GHG emissions, and ‘leading by example’ (Hornmoen 2018, 234), and appeared in the early 1990s aftermath of the Brundtland report. This discourse is dominant amongst environmental and non-governmental organizations and parties such as the Socialist Left Party, the Liberal Party and the Christian Democratic Party. The discourse on thinking globally has dominated amongst the two largest Norwegian parties, Labour and the Conservatives, and the oil industry, labour movement and the business community. This discourse emphasizes global aspects and has a focus on cost-efficiency in mitigation measures. Hence, both discourses have a global focus; however, in very different ways: e.g. national action refers to the moral obligation and Norway as a responsible actor, while the thinking globally discourse focuses on how an international system can bring forth the most cost-effective reductions.

Linked to the thinking globally discourse, is the idea of a ‘sustainable’ oil production (Hovden and Lindseth 2004; Ihlen 2009), which has become prominent in Norway. The oil industry and several political parties use this narrative with the Norwegian role as a climate change advocate, e.g. ‘The Norwegian petroleum and gas industry are part of this leadership story because it is more environmentally friendly than its counterparts elsewhere, and gas sold into the Nordic or European electricity market replaces dirtier sources such as coal. Norwegian gas and CCS can also serve as *bridges* towards a low-carbon future’ (Eckersley 2016, 193). Eckersley (2016) shows how this bridging of the Norwegian self-image as a climate pioneer and the economic position as a leading oil and gas producer, has been a key discursive position of the national governments since 2008. She further shows how the term *pioneer* is

particularly relevant because of its long history from the Norwegian pioneers, Nansen and Amundsen, to pioneering the first CO₂ taxes on oil and gas. In addition, it was the ‘pioneering generation’ who built up the wealth of Norway, as consolidated by finding oil and gas, which brought the country out of poverty. The Norwegian experience of oil as what brought the country out of poverty has its local version in Stavanger: nowhere in Norway is the role and presence of oil and gas as visible and culturally determining as in Stavanger.

Theoretical framework: Understanding local climate politics through framing

In the following, I will discuss literature on framing to explore possibilities and constraints in local climate debates. By operationalizing the concept of framing, I will break it down into context, including place, scale and temporality, and the use and role of knowledge.

The need to solve policy issues related to global climate change is often referred to as a wicked problem (Urry 2016). Rein and Schön (1993, 145) claim that ‘stubborn controversies tend to be enduring, relatively immune to resolution by reference or evidence, and seldom finally resolved’. They continue to argue that a separation of values from facts is not possible because the actors frame the problem by integrating ‘facts, values and interests (...) Given the multiple social realities created by conflicting frames, the participants disagree both with one another and also about the nature of their disagreements’. Romsdahl, Blue, and Kirilenko (2018) refer to cognitive psychology in saying that actors’ opinions and solutions are not stable when presented with uncertain issues but are strongly influenced by how the matter is framed. Showing how discourse analysis is a useful approach to understanding and dissecting complexity, Dryzek (2013,

9) states that the ‘more complex a situation, the larger the number of plausible perspectives upon it – because the harder it is to prove any of them wrong’. Hajer and Versteeg (2005) show how this affects and plays out in policy making because the judgement of facts and scalar positioning of a problem limits ‘what can and cannot be thought, delimit the range of policy options and thereby serve as precursors to policy outcomes’ (Hajer and Versteeg 2005, 178).

Øksenholt and Tennøy (2018) used Rein and Schön’s discussion of framing to further outline a theoretical framework in which framing is affected by objectives, context and knowledge. The objectives (goals, interests and values), the context (scale, perceptions, discourses) and knowledge (scholarly, lay and personal experiences and understandings) are interlinked. Therefore, the framings, i.e., the understandings and contextualization of the problems, differ from actor to actor. This complexity shows why these issues are so difficult to resolve. Rein and Schön (1993, 145) ask: ‘what can possibly be the basis for resolving conflicts of frames when the frames themselves determine what counts as evidence and how evidence is interpreted?’. What is relevant information to solve or create a common understanding is determined by how the issue is framed, both scalarly and temporally, and through what kinds of knowledges. In searching for a common ground of how to solve an issue or, as in the case of climate planning, making a plan and setting goals, in reference to Innes (2004), Rydin (2007, 56) observed that ‘consensus-building does not proceed through the force of better argument but rather by collective story-telling’.

Inspired by Øksenholt and Tennøy (2018), when building a framework for analysis, I make use of two interlinked concepts: *context*, including perceptions of place and scale, and *knowledge*, i.e. what information, data and assumptions are relevant and

valid for the actors. Central to the analysis and theoretical discussion in this paper is the acknowledgement of place, including historical, social, economic and cultural features, as part of what shapes actors' positions and judgement of facts. Hence, a sensitivity to how actors understand the context, their place's role in scale, and similarly, how they place wicked problems such as climate change in terms of scale, will influence how they judge and acknowledge facts and data as being valid or not.

Understanding the role of place and actors' scalar and temporal boundary drawing

Both place, scale and time are of importance when analysing how actors frame problems or situations to shape their context (Øksenholt and Tennøy 2018; Hulme 2015, 2009). Climate planning at the local level must always relate to other scales because climate change is a global matter per se and also because of the many interrelations between both the mechanisms of climate change and of responsibilities in the governance hierarchy. To understand the actors' responses to situations, and the arguments and discourses in local climate governance, it is necessary to grasp the contexts in which the politicians and planners frame the issue at stake:

Normally, politicians will have to see a problem in local, regional and global contexts, and in long-term and short-term perspectives. They will have multiple objectives that sometimes conflict and they will have to place them in order of priority.

(Øksenholt and Tennøy 2018, 7)

The context, i.e. the cultural, economic, political, historical, social contexts, of a policy process shape and influence what is possible, realistic and desirable. Place is 'a way of seeing, knowing and understanding the world' (Creswell 2003, 11), hence, the place in question in local climate policy-making will be relevant as both the object to

transform and as the point of departure, in addition to potential common grounds for defining the problem and seeking solutions. Actors ‘attempt to strike chords of existing cultural experiences, narratives, and knowledge within the cognitive landscape of targeted audiences’ (Lindekilde 2014, 196).

Haarstad (2014) shows how scale is particularly central to understand willingness and ability to deal with cross-scalar and cross-sectorial problems. A relational view on scale ‘as produced and constructed by action and thought’ brings forth ‘a critical edge in assessing the implications of how problems and solutions are constructed’ (Haarstad 2014, 94). Both place-making and planning require boundaries to be drawn, e.g. what are the limits to the plan, goals and measures, both geographically and in terms of scale? Kenis and Lievens (2017, 1769) argue that ‘it is inherent to carbon neutrality projects to disregard certain types of emissions, and to draw the boundaries in a way that is always somewhat arbitrary’, and that these processes are therefore ‘contingent and contestable’.

The local level, e.g. a city, is both the scenery for policy-making and politics, but also the unit of transformation. That is, this is the level where climate changes will be felt and where our daily lives are lived, including generating emissions. At the local level, i.e. the level where everything is connected to everything else (Pasquini and Shearing 2014), policies and planning will have the potential to directly affect individuals and their everyday lives. Of course, this is a sensitive issue for politicians who think of being re-elected in the next election, and forms part of the political framings and negotiations, and how the actors use and judge facts.

The role of knowledge and differing judgement of facts in planning and local politics

Hulme (2015) showed how our understandings of climate change, i.e. how climate facts are judged by actors, shapes what actions and goals are preferred. These goals and actions all have ‘credibility since they emerge from different readings of what climate change is about, inspired by different cosmologies and ethical and political values. They emerge from different judgments being passed on the facts’ (Hulme 2015, 900). Using this line of thought, the actors’ understanding of their own place and its role within a climate change narrative, combined with their judgement of facts, will determine what and how they see their city’s possibilities and responsibilities in acting and planning for climate change.

Rydin (2007) discusses the role of knowledge in planning and what she calls *knowledge claims*. She differentiates between data or information and knowledge by referring to the causal relationship implicit to knowledge. In light of Rein and Schön (1993, 145) and their argument that ‘the frames themselves determine what counts as evidence and how evidence is interpreted’, this becomes even more complicated. The causal relationship between data/information and preferred action or expected outcome will depend on the actors’ understanding. In processes of local climate policies or climate planning, there is often a lack of knowledge as to what the different potential measures can lead to in terms of reduction of GHGs. Hence, data may be available and some individuals may have some relevant experience, but as Bulkeley and Broto (Castán Broto and Bulkeley 2013; Castán Broto 2017) have discussed, in many cases, local climate action can be seen as experiments.

Different knowledges or claims of knowledge can be given different values or

acceptance at different stages of planning and in different planning realms. How the issue at stake is placed and understood scalarly will also affect what kinds of knowledge or within what kinds of causal relationships the data will be situated and accepted. In summary, contributions in the literature show how actors understand climate change from their contextual point of departure. This understanding will shape what is regarded as possible, and at what scale what kind of action is relevant, and even which knowledges and facts that are accepted in debates and planning. These theoretical insights are used when I present, analyse and discuss the case of Stavanger. Before that, I present some methodological considerations.

Methods

To describe and understand the framing of local climate politics and policy making, I draw on some insights from situational analysis. Following the process of making and passing the CAP in Stavanger, over a period of approximately 1,5 years, gave insights into the development of knowledge, experience and also shifting frames. Through coding and mapping of the data, certain elements stood out, such as the different understanding of the role and possibilities in *place* and of scalar relations in light of transformation; therefore, they became central features of analysis and focal points for the theoretical discussion. The analysed *situation* is the passing of a CAP; i.e. the city council debates, and also includes the meetings, media coverage and opinions expressed in media and documents. A broad range of types of data were used to understand and get a grasp of how the actors frame their understandings and arguments. This level of description and understanding becomes particularly relevant in planning and policy processes. How the actors both discuss and pragmatically work with the plan together, but also how they reflect on the topic in one-to-one interview, and how they present

their views and argue in public debate, gives insight into their different levels of understanding and relationships.

The empirical data for this article were gathered from various sources, including observation, document analysis and interviews. The city council's political debate was streamed; I transcribed and analysed the two-hour session. In the city council debates the frames can be traced: how do the politicians build their arguments in front of the other politicians? I was also present as an observer at a day-long hearing meeting with the regional business sector. Additionally, I also transcribed a public debate on the topic of local climate change responses, organized by the regional newspaper, Stavanger Aftenblad. I performed a document analysis of relevant documents, including the approved CAP and previous versions of it, the former CAP, and its evaluation, newspaper articles with commentary sections, and the municipality website including information about the plan and the process. An institutional ethnography was also conducted, as I was an observer in several of the working group meetings, meetings between the project leader and relevant regional groupings, authorities and interest groups, in addition to several field conversations.

Nine interviews were conducted with six politicians from different political parties in two rounds in June 2018 and January 2019. In other words, both before the plan had been passed, and afterwards. In the interviews there was a focus on letting the interviewed explain and talk freely on the subject of local climate policy making. By asking the politician to explain what happened at the different stages, who participated in the debates, and what was most important, the interviews became an important source of data. The interviews after the plan had been passed also touched upon the arguments made during the political debates, both in city council and in media. The project leader of the revision of the CAP was also interviewed in addition to several field

conversations with the informant alongside several project group members, the head of the climate section, and planners in the municipality.

Background – situating Stavanger

Stavanger is the fourth largest Norwegian city, and a little over 130 000 people live in Stavanger, with another 111 000 in the greater region around Stavanger. An industrial district, Forus, which is shared between Stavanger and the neighbouring municipalities, Sandnes and Sola, is often put forward as a core area of Norway because about one fifth of the Norwegian gross domestic product stems from companies and production with their main base there and about 40 000 people have their workplaces in this area. However, the urban design of this area, as in most of this region, relies heavily on car-based transportation (Haarstad and Oseland 2017).

Analysing Stavanger – A city under ‘a fog of oil’

To discuss the framing and political decision-making on climate policy and politics in an oil- and gas-dependent city, I will break down the following discussion and analysis into three parts. First, I will look at the context – to understand the cultural, social, economic and political framing of *Stavanger as an oil capital* in both the section with that title, in the subsequent section. Following that, I show how the politicians’ arguments can be broadly divided into two categories based on the understanding of climate change as an issue for Stavanger in terms of scale and time. The actors’ understanding of Stavanger and climate change in terms of scale, influence what they regard as relevant and realistic in terms of emission reduction targets, which is discussed in the next section. Finally, I discuss the role of target setting and the targets in this context and their role in local climate transformation.

In the political debates and the processes following, two main strands of framing are found: *Stavanger is a suitable size and scale to transform into a low-carbon society*, versus *this is a global and national matter and must be solved at those scales*. As presented in the previous section on Norwegian discourses on climate change, the typical political divide is similar, and the two largest parties, Labour and the Conservatives have been prominent in thinking of climate as a global issue. In Stavanger, this line-up has been similar, but as I will discuss, a central reason why the plan was passed with a very ambitious goal, is that the Labour party and parts of the Conservative party, turned, and argued for a framing in which Stavanger is both able to and particularly suited for major transformation.

The historical narrative of Stavanger as the Norwegian oil capital

From herring, sails and sardines to oil

Stavanger's history is characterized by one-sidedness in trade and industry. The oil business is for the time being, the last chapter in the long story of trades with far away markets based on partially precarious resources. In 1125, the episcopal residency and the cathedral laid grounds for the city development by the harbour. The sea has always been the communication vein for outside trade and impulses.

(Gjerde 2002, 9, my translation)

In the decades before the first oil discoveries, Stavanger was in an economic recession. The city was reliant on resources from the sea, with shipbuilding at the wharf and sardines and herring for the canning industry. The downturn in the herring industry affected Stavanger greatly. During the 1960s, the city was described as being poor, the canning industry did not offer high-paid employment, many people lost their jobs, and several canning factories were closed.

On the 23rd December 1969, Philips Petroleum informed the Norwegian government that they had found oil, i.e. Ekofisk, one of the largest oil fields ever discovered at sea. Politicians and actors from the business sector in Stavanger worked hard to secure the city as the Norwegian capital of the new oil industry during the searching phase. However, securing Stavanger's permanent role as Norway's oil capital involved the placement of the national oil directorate and the main offices of the newly established national, state-owned oil company. Other cities were also interested in hosting the new industry and the workplaces it entailed. Both Trondheim and Bergen were also in the running, however, they did not pursue the oil industry with the same eagerness as Stavanger. This process has been called the first lobbying campaign in Norway (Gjerde 2002; Roalkvam and Gjerde 2012). In their favour, both Bergen and Trondheim had existing and highly relevant research environments, while Trondheim had a key geographical location in regards to the full Norwegian continental shelf. However, Stavanger had already started accommodating the new industry, both the infrastructural needs of the companies and the industry and of the foreign workers. Some key actors were identified in the processes: two mayors, Arne Rettedal and Leif Larsen, and local businessmen, in particular wharf owner Thorolf Smedvig.

One of the politicians identified as the protagonist for Stavanger's success, Arne Rettedal, was sometimes the city's mayor or opposition politician, but he was always *de facto* running things in Stavanger. His role and way of running operations across political parties and differences is still a term used in local politics in referring to certain ways of solving problems as '*rettedalian (rettedalsk)*'. The city's political and economic workings, as spearheaded by Rettedal, were successful and the city experienced a real boom and a major transformation both economically, socially and culturally.

An author, public figure and former politician from Stavanger, Aslak Sira Myhre described the differences between the significance of oil to Stavanger and to the rest of the country in his book chapter, *Oil Child*:

The actual life with the actual oil, which even was integrated into our everyday at school in Stavanger, hardly exist in the Norwegian national public debate. Drillers, petro-chemists, oil geologists, cleaning ladies or sheet metal workers do not exist, just as the petrol itself does not exist. This lack of knowledge about the actual oil has given space for a different kind of oil. An abstract oil, a purely theoretical size which has nothing to do with the carbon-based raw material my whole city was accommodated to extract from the ocean floor. This oil only exists in the debate and only has two attributes; it destroys the environment and creates a repulsive wealth.

(Myhre 2010, 15, my translation)

In Myhre's text, we see the contours of how the major transformation experienced turned into culture in Stavanger. By referring to oil being integrated into everyday at school, and naming some of the many work titles of the industry, it shows how this is everyday life in Stavanger. The division between *actual* oil and *abstract* oil, does the same. It creates a division between *us*, the people of Stavanger with an 'actual life with the actual oil' and *them*, everyone else in Norway, with their version of an 'abstract oil'. In this division we can trace some roots of city identity, referring both to the actual oil of Stavanger, and to the transformation the city went through.

An oil-dependent, wealthy city

How does this framing of the city's status and history as an oil capital influence the political landscape, particularly when the matter at hand is the passing of a CAP? When asked why the question of what percentage the goal should be became such a sensitive issue, one politician answered, 'because there is a fog of oil hanging over here. It might

not smell as much as it used to, but it is definitely there.’ The local business sector in Stavanger is dominated by the oil sector, both the larger companies and different companies delivering services to the industry. Even though oil and gas production are not a part of the climate scenario for municipalities (but a part of the national scenery), declaring a vision of a low-carbon future is a strong signal to send from a city so dependent on the fossil industry and employment. In Stavanger, politicians across the spectre of parties express a need for an internationally agreed-upon treaty to slow down the global oil production before the city can start discussing and making a future not reliant on fossil fuel production. Even politicians from typically greener parties say this and express how the local Stavanger politicians do not agree with the idea or rhetoric of their own party at the national level:

The consequences of shutting down the oil industry are enormous here. How can we defend that 20–30 000 work places in oil disappear here, just to reappear somewhere else in the world? (...) To me, that perspective is almost impossible to even get my [party colleagues] to understand.

(Local politician from the liberal party)

Politicians from both sides of the debate emphasize that the downscaling of oil and gas production will have huge effects on the local economy through the loss of jobs and tax revenues: the question of oil production or phasing that sector out is placed within a frame of work places and employment. The importance of oil for the Norwegian welfare state is often particularly emphasized in debates over whether a closing date for the industry should be set. At the national level, this leads to a debate over what else the country can base its future incomes on, and locally, this is scaled down to a debate over what the oil workers in Stavanger should do for a living if the oil industry disappears.

After the oil downturn in 2014 and the following years, Stavanger saw major changes and experienced what could happen in a life with less oil production. A politician (from the socialist party) said in an interview that ‘regularly meeting people who have lost their jobs makes it very difficult to argue for even more reductions in the sector’.

Understanding Stavanger in scale and time

The limits to a municipal plan are central: i.e. both geographic, scalar and temporal boundaries form part of the plan’s workings and dynamics (Kenis and Lievens 2017; Heynen, Kaika, and Swyngedouw 2006). At the core is a seemingly simple question: *is Stavanger a suitable size for a climate and energy action plan?* In other words: does it matter what Stavanger does? If climate change is a global entity and a global problem, with local implications, does it matter what this in international scale, small, Norwegian city, does to reduce its climate gas emissions? Two main understandings can be drawn out of the political debate about the CAP’s main goal. They both relate to the national climate discourses of national action and thinking globally, and of Norwegian oil as being ‘clean’ (Hornmoen 2018; Hovden and Lindseth 2004; Tellmann 2012; Eckersley 2016). The parties arguing for local action and ambitious targets, are the Socialist party, the Liberal party, the Green party and the Christian Democrats, whilst the Conservative party, the Labour party and the Progress party have been advocates for keeping the same reduction targets as the national level. However, as I will show in the next section, a change happened when the story of Stavanger’s transformation from a poor fishery city, into an international oil hub, was mobilized, and the two largest parties, Labour and (parts of the) Conservative party, shifted from the thinking globally discourse, to a narrative of local transformation. But first, an analysis of how scale was used in the framings.

On the one hand, the politicians arguing that Stavanger indeed is a suitable size for climate transformation, frame their arguments in terms of *action* and *responsibility*. First, they frame Stavanger as a forward-leaning innovative city that has experienced great transformation and is therefore particularly suited for profound change. Second, that the municipality has certain tools and particular emissions that are local. In the case of Stavanger, transportation comprises approximately 60% of the emissions. The opening statement and presentation by the politician from the Liberal party and also the leader of the city development committee in city council was referred to earlier in the article. He also placed and assumed responsibility:

We have to do something. We must take responsibility for what we are responsible for.

Primarily the transportation sector (...) and secondly heating. If we set high targets, there will be larger chance that we achieve them. Think globally, act locally, said Gro Harlem Brundtland in 1992.

On the other hand, there are the politicians who see Stavanger as being a too-small unit, both in terms of place and scale: i.e. Stavanger is *too small* to make a difference for climate action. They place this argument both in terms of global and regional issues: e.g. that Stavanger has no impact on global climate change emissions. In addition, the climate change policy should be an inter-city plan. The *smallness* discourse is a topic and trace that is found in arguments at the individual level as well (Tvinnereim et al. 2017; Langaas, Fløttum, and Gjerstad 2019; Fløttum 2017). In Stavanger, the smallness is, interestingly, coupled with the argument that Stavanger is already *top of the class*. For example, emissions per capita in Stavanger are low, compared to the other largest Norwegian cities:

Stavanger is the city that is without a doubt best (...). We can thank ambitious politicians for this, but we can also thank the oil industry, which has put pressure on the industry onshore to

achieve a better total climate foot print.

(Representative from the Progress party)

The low emissions per capita is mainly caused by the fact that Stavanger does not have any significant industry, nor airport within its city limits and most high-emitting infrastructure is placed in the neighbouring municipalities. However, this fact is used both *against* the need for an ambitious local plan and *for* the need for a regional plan.

The following sequence from the city council debate illustrates these ideas (my italics):

- What can and should we do locally? A bit of the challenge which surprised me is that Stavanger's emissions per capita is *actually quite low*. And that is poorly communicated.

(Mayoral candidate from the Conservative party)

- It is made into a big point to point out that we have low emissions per capita, but that is to *compare apples to pears*, all the while the cities mentioned, they have more industry and a huge airport within their municipal boundaries.

(Representative from the Green party)

- I want to invite the representative and mayoral candidate to a world record attempt! Do you want to join the Liberals in becoming the leading oil city in the world which reduces its GHG emissions the most?

(Representative from the Liberal party)

- *Shows the graph of emissions per capita in the four largest cities*

Measuring in percentage is a strange way of measuring. I would gladly join a world record attempt in becoming the city in Norway with the lowest emissions per capita. That is relevant. How can that be less ambitious than having a really high number as a starting point, and cutting it down to where we are today?

(Mayoral candidate from the Conservatives)

This round of questions and political disputes, showcases the very different and

competing judgement of facts by the two groups. Is Stavanger already leading a national competition in low emission levels? Or are these numbers deceiving, as the emissions in other cities include other sources, which in are placed outside the municipal boundaries in Stavanger's case?

The debate over the CAP divided both the governing coalition, and created an internal divide in the Conservative party. The mayor sided with the most ambitious goal, while the mayoral candidate for the upcoming elections, argued against those goals. How the framing of action won this debate is in many ways anchored in how the then mayor and the mayoral candidate framed their arguments. A key point here is that the side arguing for an ambitious 80% emissions reduction also actively uses the identity of oil capital, which brings us into the next section, of how this was framed.

Stavanger as a transformative city

Many politicians fronted the action-frame, but two politicians were particularly important for the fact that this side 'won'; the then-mayor from the conservative party, and the mayoral candidate, today mayor, from the Labour party. They both showcase the understanding of Stavanger as active and a suitable scale and place for climate transformation.

As practically everyone has commented, the fact that the then mayor from the Conservative party backed the 80% proposal was very important:

My pride concerns our mayor (...) It is uniquely politically important that the mayor in what is still called the oil capital, wish to set local, ambitious goals of reductions in CO₂ emissions.

(Head of the city development committee during city council meeting)

The head of the city development committee refers to Stavanger as oil capital, and

directly links this to ambitious targets of mitigation. The mayor explained why she voted for the most ambitious goal in an interview with a local newspaper:

My point of departure has been that the mayor of Stavanger shall be very ambitious when it comes to climate and environmental goals. I want to be someone who participates and leads way in this topic. I think it is possible to achieve the goal.

(Jupskås 2018)

The visions and core values of the Stavanger municipality are that it ‘is present, wants to lead the way and creates the future’. In other words, the mayor used the exact same phrases to frame her reasoning. These words and visions of Stavanger, and the mayor, also draws on an idea of transformative capacity, *creating the future* paints a picture of a municipality actively addressing and steering future development in the desired direction.

In interviews and public debates, the mayoral candidate from the Labour party repeated the importance of being ambitious, of not lagging behind the other major cities, and of showing that Stavanger is the *energy capital*, not the oil capital:

It should be easier in Stavanger than in other places! If we are to rightfully label ourselves the energy capital, this should be the place. We should be in the lead!

However, the importance of oil and gas versus climate ambitions is particularly prominent in the rhetoric of the Labour party, and the local branch in Stavanger is, of course, no exception. Discussing the potential role of the industry for Stavanger’s economy in a 50–100-year perspective, she answers:

There are possibilities of making that industry even greener, and hence world leading. We will ensure good terms for the industry, but we have to help them with the transformation. But the climate and environmental plan is just about the emissions from the inhabitants, the oil and gas

industry is not a part of it, of the climate accounting in it. That plan is about tools at the municipality's disposal.

In her narrative, we see a bridge being formed; stepping across the impossible paradox of Stavanger and Norway wanting to maintain the national oil industry while simultaneously attempting to position the city as a municipality with great ambitions to quickly become a low-carbon society. This is a narrative in which the oil capital is transformed into an energy capital by combining the hope of a low-carbon society with the fear of the unknown, of the void left by the oil sector if it is to be shut down.

The knowledge claims

The two fractions debate how to draw the lines and delimit the plan, what emissions are relevant to include in such a plan, and what figures are relevant and how to understand them. The *judgement of the facts* differs greatly, and hence, what is possible, desirable and apprehensible differs. The questions concerning facts and knowledge are linked to the questions of scale; one argument is that Stavanger is a small city with low emissions. On the other side we find arguments of Stavanger's great potential to transform, based in historical experience of doing so, and hence the city has potential to take a lead. Both amongst cities in Norway, and perhaps even amongst oil cities in the world.

In an op-ed, a politician from the Conservative party wrote:

We have to take greater action if we are to affect the global climate, not puzzle with measures such as denying people to park on their own property or create pipe dreams where 70 % of all work and shopping related transportation is done by foot or on bike – in the rain and wind.

(Folgerø 2018)

In this sentence, she makes reference both to her own framing and understanding of the problem, and of how the boundaries of the plan are wrong, and she proposes Stavanger's major source of emissions, that of transportation, as a small piece in the puzzle. Using words and phrases such as puzzle with, denying people, and pipe dreams, she judges the facts, reasoning and arguments of the other side as tiny efforts, as not at all ambitious, because the plan and its scope will not deal with the real issues at hand.

Answering in another op-ed, three politicians from the Green party, insisted on Stavanger as a proper scale to deal with climate change:

we want Stavanger to join the *klimadugnad*¹ – and at the same time become a better city to live in, to do business in and a better city to visit. Those are two sides of the same coin. Green cities are good cities.

(Johnsen, Ingeborgrud, and Fossmark 2018)

These politicians frame climate change as a problem that the local scale can deal with, and in doing so link low-carbon development to the overarching, commonly agreed upon idea of a green city, which is a desirable city. When the conservative and progress politicians talk about issues of cross-municipal nature, of indirect emissions, emissions pertaining to aviation, cruise tourism, the politicians arguing for the most ambitious goals respond that these are all matters that can be solved.

The two main fronts both argue to be ambitious, but with completely different sets of scalar interpretation, boundary drawing and judgement of facts, and these two different framings become the central feature of how they each argue to set the main target.

¹ Dugnad is a Norwegian word, meaning help or voluntary work. It is a very much used word and concept, for example the government called for a national *dugnad* to combat covid 19.

Setting a target: What is realistic and what does it mean to be ambitious?

‘The discussion was ferocious. I have never seen anything like it!’ The prominent and highly experienced local politician’s reaction to one of the eight rounds of political discussions in different the city council committees shows the temperature of the city council’s debates about the proposed CAP. However, the same politician argued that the final decision was tremendous:

If we’d decided on 40, we’d be happy achieving 39, had we gone for 50, we’d be happy with 45. Now, with 80, we can be pleased achieving 70. (...) This is almost a paradigm shift!

(Local politician from the liberal party)

Some of the politicians describe the situation as one where ‘the wheel is turning’, i.e., things are happening whether the politicians are aboard or not. The electrification of transportation is progressing, there are several projects developing fossil-free building and construction sites in other cities, and the plan’s measures are strongly linked to the policy package on transportation made with the national government. However, there is quite a distance from the ongoing process to the changes needed to accomplish an 80% decrease in emissions.

Does it matter that Stavanger decided on 80% instead of a 40% or 50% reduction? Are there signs that this can lead to substantive changes? Targets, just as planning, play different roles (Haarstad 2020; Kaza 2019), both during the process of making and passing a plan, and in the aftermaths. The goals made can be an expression of the frames in which the problem and development at hand are placed. The debates, discourses and dynamic evolving of making plans and passing goals are important steps in the incremental changes needed to transform cities into low-carbon societies.

In the analysis of the political debates which led to the CAP being passed in the Stavanger city council, different understandings of place and scale, and differing

judgements of facts were traced. The political constellation who proposed the 80% goal and worked together to arrive at this common target mobilized the story of how Stavanger transformed into an oil capital: 'we have done it before, we can do it again'. They frame the CAP and its target as being specifically local, i.e. to be achieved within Stavanger. They argue that climate change is a global problem and Stavanger must take its share of the responsibility. The contestation to the very ambitious line bases its understanding on climate change as being global, both in terms of problems and solutions. Therefore, it is not necessary for Stavanger's population to go to such extreme lengths transforming their everyday lives, because 'more efficient solutions can and should be found elsewhere'. The plan was passed with an 80% reduction as its main goal, but it also included a list of 51 detailed changes to be made to the plan, and a particularly important note: 'the plan is to be updated as soon as possible, and at the latest during the spring of 2021, after the municipal merger between Finnøy, Rennesøy and Stavanger'. In other words – the story of Stavanger's highly ambitious CAP is to return for yet another round.

Conclusion

How can an oil city pursue ambitious local climate politics and policies? The literature on local climate transformation and policy-making brings forth an understanding of the importance of framing to understand the possibilities and constraints on actually achieving profound changes. 'The science of urban climate transformation must be coupled with a narrative of fundamental change that can be embedded in all cultures and communities' (Rosenzweig and Solecki 2018, p. 756). Opening up to a narrative of a sustainable, low-carbon future in Stavanger, leads to debates, discussions, understandings that both involve and exclude the fossil industry that the city is so

dependent upon. In this article, I have discussed how we must understand a city's social, political, economic and cultural contexts, to understand how it can deal with producing substantial and ambitious climate policies.

The story of how Stavanger passed ambitious climate goals, shows how context; i.e. history, economy, culture, social aspects, plays an important part in shaping the possibilities and constraints for local climate policy and politics. Importantly, it demonstrates how actors' scalar understanding of climate change, will entail very different understandings of the scope and space of opportunities for transformation at the city level. The debates concerning the CAP often brought in the status and implications of being an oil city, however, the fact the oil industry does not form part of the local emissions and hence was not a part of the CAP was very important to make an ambitious climate goal possible. Hence, oil became a part of the context, but not what was to be transformed. The *actual* oil of Stavanger is not a part of the *actual* climate transformation, but explains and becomes a protagonist in the story of Stavanger's transformative capacity.

Literature on framing highlight context's role in actors' understanding of problems and possible solutions (Øksenholt and Tennøy 2018; Rein and Schön 1993; Hulme 2009). The contribution of this paper is to show how contextual factors can also be mobilized by actors to bridge paradoxes and reframe visions of climate transformation as both possible and probable. By doing so, the paper brings the classical geographical concepts of place and scale into the academic debates of transformation. In particular, I make use of insights from relational views on scale (Haarstad 2014) and what Kenis and Lievens (2017) describe as the contingent and contestable drawing of boundaries. With these insights, I show how actors' understanding of scale and of the possibilities of their place, shape what is perceived as possible, realistic and ideal, but

also, how local context can be mobilized to shift discourses and possibilities. Place and scale are key components in the framing of local low carbon transformations, as this paper shows, and should be reflected in future research on transformation processes.

Bridging paradoxes through contextual framing can create space for new political constellations and expand the view of what is regarded as possible, desirable and realistic. Because actors' understanding of problems are based on their contextualization of the matter (interlinking knowledges, experiences, identities, values), it is necessary to explore these frames to find grounds and ways of reaching solutions. Climate change is a global problem, but efforts, solutions and possibilities are to be found at all scales.

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Paper 3

Displacing Conflicting Goals in Planning for Sustainability?

Insights from Three Norwegian Cities

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ABSTRACT

Sustainable transformation is hampered by conflicting goals. Here we examine how goal conflicts are handled in planning practice, focusing on processes around municipal climate and sustainability governance. We investigate local manifestations of goal conflicts between transport and land use planning and emissions reductions in three Norwegian cities, using document analysis, interviews and observation. We find that governance actors handle goal conflicts through what we term *strategies of displacement*. We identify three such strategies: temporal, sectorial and scalar. The research contributes to explaining how and why goal conflicts persist in planning practice.

KEYWORDS: Conflicting goals, urban climate policy, urban climate politics, scale

Introduction

The problem of conflicting goals is widely recognized in studies of sustainability governance and planning. Conflicting goals are at the core of politics, where diverse interests play out, and of sustainable development, with conflicts between growth and environmental protection. There is a broad debate on the trade-offs, co-benefits and contradictions in sustainability, for example in relation to the UN Sustainable Development Goals (SDGs) (Hickel, 2019; Nerini et al., 2018; Nilsson et al., 2016). In planning and local governance studies, Campbell's (1996) classic study presented planning as characterized by a basic conflict between environmental protection, economic growth and social justice.

There is less agreement as to whether these conflicts can be overcome, managed or resolved, or whether they are intractable structural features inherent to governance. Opinions

seem to depend on the theoretical positions adopted. Campbell suggested that reaching a negotiated solution to these conflicts is possible but would require us to “reorganize society” (1996, p. 301). Revisiting his planners’ triangle, Campbell argued that we may “need to let go of the idea of balance (between social, environmental, and economic priorities) as the core principle for sustainability, and instead speak of a kind of truce, a working contradiction, a stalemate, a temporary armistice” (2016, p. 396). Castán Broto (2015) suggested that such contradictions can be highly productive in driving low-carbon transitions.

Our concern in this article is how local and urban authorities handle goal conflicts in practice. We understand *goal conflicts* as competing and incompatible objectives within currently existing policies. We shift the focus from the more abstract contradictions and trade-offs between overarching goals, to examine how conflicting goals are managed, discussed, or even evaded in concrete decisions in cities. Arguably, the local level of governance is where contradictions are actualized and need to be worked out because concrete implementation takes place locally. How are conflicting goals dealt with in the local climate and energy action plans (CAPs)? How do local actors reflect and discuss conflicting goals? What techniques and strategies of governance are used to evade, overcome, negotiate or ignore goal conflicts?

Our empirical focus is on goal conflicts between transport and land use planning priorities and goals of emissions reductions in the major Norwegian cities of Bergen, Trondheim, and Stavanger. These are the three largest cities in the country outside Oslo and are part of a national major city network (*Storbynettverket*) promoting sustainable urbanization. The three cities face similar challenges; some of the most challenging can be characterized as fundamental conflicts between competing goals, particularly in transport and land use planning and climate emission reductions. Using document analysis, interviews and observation, we analyze the goal conflicts that arise between transport and land use planning

on the one hand, and climate emission reductions on the other, and how authorities relate to and manage goal conflicts in concrete decision-making processes.

We show that goal conflicts are not overcome, but rather evaded, overlooked, or denied in different ways. Local planners lack the tools to handle conflicting goals properly, and local politicians have incentives to avoid handling goal conflicts within electoral cycles. Avoiding conflicting goals does not mean that they go away. Rather, they are *displaced*. We argue that several strategies of displacement are in operation, and identify three: temporal displacement, assuming that the conflict will be solved by future technology or more restrictive measures later; sectorial displacement, assuming climate and sustainability are issues pertaining to a different sector, and hence, have to be managed there; and scalar displacement, avoiding the goal conflicts through unclear and contested scalar division of responsibility. The three processes are interlinked and entangled but can be understood and analyzed separately.

The article proceeds as follows. First, we describe how conflicting goals are understood and discussed in the literature, including examples of studies from Nordic countries. Next, our operationalization of how to analyze conflicting goals is outlined, followed by a description of methods. We present and discuss the case, namely urban conflicting goals in Norway, before offering concluding remarks.

Understanding Conflicting Goals

The phenomenon of goal conflicts is well recognized in both the scholarly literature on planning and in the literature on sustainable transformation and transition. The fact that economic growth and environmental protection—to take one classic example of a goal conflict—are at odds with one another is widely accepted. In vernacular political debate, the left typically holds that economic growth is incommensurable with environmental protection

while the right often argues that they can be reconciled. There is extensive academic debate on conflicts between various goals inherent to the sustainability agenda. For example, many point to the trade-offs, synergies, co-benefits, and contradictions between the various UN SDGs. Systematic studies find evidence of both synergies and conflicts between the SDGs (Nilsson et al., 2016; Pradhan et al., 2017), while others argue that conflicts and contradictions between the goals are likely to undermine the SDG agenda as a whole (Spaiser et al., 2017). Hickel (2019), for instance, argues that the SDG agenda's goal for economic growth (SDG 8) "renders it empirically infeasible" (p. 873) to achieve a reduction in resource use (SDG 12) and reduction in CO₂ emissions (SDG 13).

Urban policymakers and planners confront an array of goal conflicts in their daily work (Flyvbjerg, 1998). Campbell's (1996) classic planners' triangle presents this as a trilemma between economic growth, social equity, and environmental protection, suggesting that there can only be negotiated, temporary resolutions between them. However, as is the case with the SDGs, the trade-offs and conflicts are not made sufficiently clear. A key role for urban planners has traditionally been to mediate between conflicting views and find consensus (Fainstein, 2000). However, as Owens and Cowell (2011) note, "trying to turn the broad consensual principles into policies, procedures, and decisions tends not to resolve conflicts, but to expose tensions inherent in the idea of sustainable development itself" (p. 43). Although the "communicative turn" in planning theory and practice attempted to resolve conflicts through participation and dialogue, it did not overcome fundamental conflicting interests in the planning process (Flyvbjerg, 1998; Holgersen & Haarstad, 2009; Rydin, 2011). The literature on urban post-politics has argued that the conflicting interests are obscured and managed within the contemporary bureaucratic and depoliticized understanding of planning (Swyngedouw, 2010).

In other words, conflicting goals in planning are often handled by being obscured and hidden in political and planning processes. In their study of the project to make Leuven climate neutral by 2030, Kenis and Lievens (2017) noted that the inherent tensions and obstacles of the project were concealed behind a technical, managerial, and scientific discourse, which partly explained the project's lack of progress. Similarly, studying urban stormwater planning, Bohman et al. (2020) found that goal conflicts remained unresolved in decision-making processes. Rather than being identified explicitly in decisions, inherent conflicts between misaligned strategic goals are passed on to other actors and later stages of planning (Bohman et al., 2020). By seeking an inclusive consensus, planning processes encourage compromise and overlook inherent contradictions, in turn postponing difficult decisions and priorities to the future.

So why are conflicting goals in climate governance not handled more directly in planning processes? The answer is not clear, but the literature offers multiple potential explanations. For instance, local planning authorities have diffused and limited authority and mandates to tackle such broad and intricate issues. Municipalities are siloed (Oseland, 2019), with responsibilities and the production of services divided among several units, with different institutional logics, based on the kind of laws and regulations that they uphold. Thus governance systems employ a web of divergent institutional logics within (Beunen et al., 2017; Uittenbroek, 2016). Conflicts of material interests are a prominent reason for a lack of general handling of conflicts, and at the municipal level there is often a clear center-periphery dimension to such conflicts (Antonson et al., 2016). Divergent understandings of the goals can lead to a lack of handling of the conflicts; the goal of sustainable development in a city's land use can entail different understandings and hence solutions (Campbell, 1996, 2016; Godschalk, 2004; Owens & Cowell, 2011).

In planning practice, these conflicts manifest in concrete decision-making processes, where actors with varying degrees of power stand on different sides. Conflicting goals in municipal planning are many and multifaceted: goals in conflict with climate targets are no exception. They span from the overarching, for example, tensions between generating jobs or reducing emissions, to the concrete - for example whether to allocate road space for cycling paths or car parking. Some climate-friendly policies can conflict with other climate-friendly policies: for example, compact city development may conflict with blue-green infrastructure, the preservation of existing qualities, livability (including noise, green spaces, etc.), and biological diversity (Wang et al., 2018).

A key element of goal conflicts is how they are manifested as opposing priorities between different levels of policy-making. Indeed, the mismatch between scales of policy-making has long been recognized as a key problem in climate governance (Bulkeley & Newell, 2010; Haarstad, 2014). Antonson and co-authors (2016) find a discrepancy both between the municipal master plan and the views of the regional authorities, as well as between the municipal master plan and statements in interviews by local planners. Similarly, Tennøy and Øksenholt (2018) argue that the divergent prioritization of objectives is often the root cause of conflicts arising in planning processes.

These contributions show that the literature acknowledges that goal conflicts linger in planning and governance systems in different ways, and maybe hidden, downplayed, siloed, or unresolved in interactions between governance levels. Next, we consider how to understand the way conflicting goals are handled and understood in practice, from the perspective of local planners and decision-makers.

How Are Goal Conflicts Managed in Practice?

How can we analyze the way goal conflicts are managed in practice within planning processes? Building on Flyvbjerg's (1998) studies of power in planning, as well as theoretical perspectives on path dependency in sustainability transitions (Hansen & Coenen, 2015; Loorbach, 2020), our perspective is that goal conflicts are created and maintained by divergence along three dimensions: knowledge, institutions and material structures. Firstly, *knowledge* points to differences in how problems are understood, framed, and defined (Rein & Schön, 1993; Rydin, 2007; Vinge, 2018).

Secondly, *institutions* point to how governance systems create separation of problem areas, silos, and specific rationalities attached to various actors and levels in bureaucracy and politics (Lockwood, 2015; Madanipour, 2010; Stead & Meijers, 2009). Thirdly, *material structures* point to how infrastructure, the built environment, and resource distribution create interests and rationalities that shape the positions actors take in decision-making processes (Hansen & Coenen, 2015; Shove et al., 2015; Unruh, 2000).

The point of highlighting the different aspects of goal conflicts is to underscore that these conflicts are not simply irrational misunderstandings but are related to fundamental conflicts in social structures. We focus on how these fundamental lines of conflict are handled, managed, and coped with in concrete decision-making, in the practice of planning. Despite the fundamental character of goal conflicts, concrete decisions are continuously being made. We need to understand better the techniques and strategies, or lack of such, employed by authorities in making decisions. In practice, decisions are necessarily made under conditions of bounded rationality, in specific spatial and temporal contexts, and in complex situations with a great deal of uncertainty (Wangel, 2011). Concrete decisions rarely relate directly to the overarching goal conflicts in society. Rather, decision-makers typically attempt to make an optimal choice in the circumstances at hand.

In the empirical analysis below, we first examine CAPs in the selected case cities to assess whether and how conflicting goals are acknowledged and discussed. Then, we review some concrete decisions with clear goal conflicts to understand how planners and other decision-makers themselves rationalize making decisions in the context of conflicting goals. We aim to identify some general strategies through which goal conflicts are handled in practice. Our analysis deconstructs what particularly messy problems—such as road expansions in light of climate goals—consists of, to better understand how goal conflicts operate in practice.

Methods

We base our study on cases of local manifestations of goal conflicts in the Norwegian cities of Stavanger, Bergen, and Trondheim. These are the three largest cities in Norway outside Oslo, and face similar challenges of urbanization while attempting to reduce congestion, pollution, and CO₂ emissions. They are all regional centers, creating similar challenges with regard to land use, transportation, and infrastructure. All have ambitious targets and plans for shifting towards sustainable forms of mobility. To study conflicting goals and how the cities deal with them, we focused the scope of data collection on key planning documents, debates in city councils, media coverage and opinion pieces in newspapers, interviews with planners and central politicians.

For each of the cities we analyzed the Climate and Energy Action Plan in light of goal conflicts. This research forms part of a larger research project on CAPs in Norwegian cities. We conducted interviews with actors with direct involvement in the processes of revising and passing CAPs: conflicting goals were addressed in the interviews. We followed city council meetings where the action plans were passed. The planners and politicians interviewed all had central or direct roles in the processes of making and passing climate and energy action plans,

and work directly with planning, climate change, and/or city development. They were asked to identify and elaborate on the main bottlenecks for local climate mitigation efforts. In Trondheim, we interviewed nine planners and one politician; in Bergen three politicians and seven planners; and in Stavanger we conducted nine interviews with politicians and one with a planner. We aimed to interview a similar number of planners and politicians in each city, but there were differences in access. This is likely attributable to differences in institutional culture, and where the cities were in planning processes at the time of fieldwork. We decided to not pursue interviews with officials at the national level since obtaining a satisfactory scope of informants would not have been possible within the scope of the current project focused on the local manifestations of goal conflicts.

Participant observation was conducted during the revision of the CAPs of the three cities; the information and discussions on conflicting goals from these meetings and in field conversations with a broad range of municipal planners and local politicians form part of the understanding of central aspects of conflicting goals as an issue in local climate governance. Additionally, news articles and op-eds in regional newspapers and debates in public media form part of the contextual background review.

Urban Sustainability Conflicts in Norway

To examine conflicting goals in planning, we concentrated on examples where issues of transport and mobility conflict with climate goals. We show how these issues are dealt with, or evaded, in planning documents, and extract the opinions and reflections of planners and politicians on the matter. In Norway, all three levels of governance—national, regional, and municipal—have roles in planning. The national government produces overarching regulations and guidelines, the regional level is the arbitrator of planning conflicts and has several responsibilities within transport, while the municipal level is where most practical

planning decisions are made (Saglie et al., 2015). Within each of these levels, and across them, interests, discourses, knowledges, and ways of performing the process of planning and implementation will differ; as in other governance systems, these levels and actors can operate as distinct silos where particular rationalities and cultures are maintained. For example, the logics that the national road authorities use when negotiating and planning for new tunnels and bridges will be quite different from the rationalities of the two municipalities between which the infrastructure will be built.

The city (municipal) level has responsibility for developing a Climate and Energy Action Plan (CAP). Each of the three cities has ambitious targets and plans for a shift to sustainable transport. Bergen's CAP, the "Green Strategy" (passed in 2016) announces the main climate target of becoming a fossil-free city by 2030, which is defined as "no use of fossil energy sources" within city limits (Bergen municipality, 2016, p. 13). Trondheim's CAP (2017) states the main goal of an 80 percent reduction in direct greenhouse gas (GHG) emissions compared with 1991 levels by 2030. Stavanger passed its CAP in 2018, and likewise states the main goal of an 80 percent reduction of GHG emissions compared with the 1991 levels by 2030. Trondheim and Bergen's CAPs are primarily focused on topics related to mitigation, including energy consumption and production, and adaptation, whilst Stavanger's CAP has a distinct environmental focus, in addition to mitigation and adaptation. All three cities have experienced an increase in emissions compared with 1991, although there has been a slight decrease since 2016.

How Do Overarching Plans Deal With Goal Conflicts?

At a discursive level, the plans of all three cities recognize the existence of goal conflicts – and even use that specific term (*målkonflikt*) in discussing them. Bergen and Stavanger's CAPs have separate sections, however brief, pointing to goal conflicts. In the case of

Stavanger, the plan points to the goal of increasing tourism as conflicting with sustainability goals:

In several areas, the climate and environmental objectives may conflict with other objectives the municipality and society have. One example is growth within tourism, where increased air and marine traffic also entail increased emissions. General growth in consumption, travel and other things can also result in increased GHG emissions, the consumption of finite resources and losses of natural areas and biodiversity, in Norway or in other countries.

(Stavanger municipality, 2018, p. 8)

The plan for Stavanger points to urban densification as potentially in conflict with the goal of reducing the number of people troubled by noise. More broadly, it states that the biggest challenge for the Stavanger region is to transition to a low-emission society and, at the same time, maintain a “functional operation and a good quality of life” for its citizens. In other words, conflicting goals are recognized, both in concrete measures and in a broader sense, yet there is little discussion of how they can be resolved.

In Bergen’s CAP, conflicting goals are explicitly recognized, with a separate section on conflicts between goals that highlights two particular instances: increased road capacities and the consequent effects of projects, and a potential expansion of the airport with a second runway “emissions of between 40 and 70 thousand tons of CO₂ per year by 2065 if a second runway is built“ (Bergen municipality, 2016, p. 29). Referring to climate goals both locally and nationally, the plan states that current technology and the municipal goal of shifting freight to rail transport, “building a new runway at Flesland airport is a clear conflicting goal, given today’s climate technology”. Even though most emissions from air traffic are excluded from municipal climate emissions (only emissions from take-off and landing are included),

they are widely discussed as a major part of the overall emissions from the population, and a theme for future climate planning. Again, although conflicting goals are explicitly recognized, the plans fall short of suggesting how conflicts can be overcome.

In Trondheim, the CAP explicitly recognizes conflicting goals, although they are discussed less prominently than in the other two cities. Trondheim's plan states that the need for new housing, roads, and other infrastructure, and the "measures to meet these needs can be in direct conflict with the climate goals. An increase in road capacity will for example lead to increased traffic work and an increase in emissions during the building phase" (Trondheim kommune, 2017, p. 8).

Not surprisingly, we find that the planners and authorities developing the CAPs are clearly aware of the existence of goal conflicts, particularly in relation to traffic growth and new transport infrastructure on the one hand, and climate and sustainability goals on the other. Indeed, we find that the National Road Authority rhetorically recognizes conflicting goals as well, although their argument for "balance" is in effect an argument against strong climate action. One key policy document reads:

The goals can be in conflict with one another. It is important to find a balance between the goal of good mobility for the population and business sector in areas with strong population growth, whilst at the same time ensuring zero growth in personal car use and reduced emissions of local pollution and climate gases in the city area.
(Statens vegvesen, 2017, p. 35, our translation)

Similarly, the cities are managing urban growth and ambitious climate goals at the same time. The awareness of goal conflicts was clear from our interviews with planners in the three cities. Speaking of the importance of the conflict between densification of urban land use, on the one hand, one planner said, "The densification politics we need to have in place,

are in conflict with both green structures and public health. [...] Using green spaces for densification does lead to a worsening of public health. There are conflicting goals there” (interview, land use planner). Another expressed how they struggled with prioritizing sustainability in practice: “There is no use in prioritizing the environment every other time. You have to make the environment a priority every time” (interview, land use planner). The planners described how, when local politicians and planners are juggling several interests and goals of development simultaneously, a lack of consistency and a continuous presence of contingencies create space for conflicting decisions.

Our analysis of existing plans indicates that the cities have no specific strategy for handling conflicting goals, beyond pointing to the existence of the goals. This may be because the problems seem intractable and beyond the scope of the plans, as some of our interviews with planners suggest. Yet planners also attribute these goal conflicts to the contradictory policies of the national state.

In 2017, mayors from seven of the largest cities in Norway, including our three cases, together submitted a letter to the Minister of Local Government and Modernization (Storbynettverket, 2017). The letter analyzed policy areas where the national government had failed to co-ordinate its policies, stay loyal to its own goals, or prioritize the sustainable land use planning that it expects of municipalities. The cities emphasized their own intentions of meeting climate targets but stressed that their ability to do so depended on how the Government proceeded with its own investments and coordination across Ministries. They suggested that the national Government does not always follow its own guidelines and established objectives. In particular, the letter points to the national government’s role as manager of estates and asks that the establishment of new national structures and institutions in their cities, such as hospitals, be located near public transportation infrastructure, in line

with the state's own guidelines by which cities have to abide. In other words, city leaders ask the national level to act in the same way that the national level asks of the cities.

While the letter is quite concrete in pointing to specific areas where national policy underpins conflicting goals, it can also be read as a way for the cities to deflect responsibility. Several of the areas that they point to-- for example, restricting private car parking-- the cities can also do themselves. Hence it appears that the cities and the national government are attempting to shift responsibility for the difficult prioritizations onto each other.

At times, goal conflicts emerge in the divergences between local and national levels. Yet conflicting goals also present dilemmas which are highly local and within the realm of local planners and authorities to work out. We now examine two specific instances of how conflicting goals are dealt with across our case studies. Both – expanding road capacity and siting large public institutions -- are related to expanding transport infrastructure on the one hand and climate emissions on the other.

The Goal Conflicts of Road Expansion

In each case city, ongoing projects are expanding roads into the city centre. These roads are likely to increase flows of private car traffic, which in turn undermines the cities' goals of avoiding such increases. Those goals are mandated by the state, within Urban Growth Agreements. Ironically, the road projects undermining the goals are also national – and local authorities complain about this both in private interviews and in public. At a conference we attended, the administrative director of the Department of Urban Development in Bergen discussed a major bridge expansion project in the region and said “we know that [the project] is needed, but at the same time we are thinking ‘help!’, and pull our hair”. In an interview, a planner reflects on the matter, expressing frustration and a lack of possibilities to act. “We don't get to have a say. And I am unsure if the politicians get into it. [...] What would it look

like if they said ‘we don’t want [that bridge]?’” Planners and decision-makers are acutely aware of this paradox of receiving large infrastructure projects in the region on the one hand, and the associated problems of achieving climate and sustainability goals on the other. A land-use planner in one of the case cities lamented:

The state, the national level, (...) it happens all the time that four-lane highways are built before two-tracked railway is built, and by then, people have already started driving on the four-lane highway. (...) In this year’s evaluation of the environmental package we had to write that with all that’s happening with road constructions from the outskirts into the city, will make it harder to achieve the goals. It will lead to an increase in traffic.

Interviewer: Do you have the tools in place to compensate for the increase in traffic?

Planner: No. It is really challenging. We don’t really have other tools than parking restrictions and road taxes. (interview with authors)

There are complicated reasons why this situation repeatedly occurs. Decision-makers pass legislation, plans, and funding for contradictory initiatives at the same time, without really considering how they are in conflict. National and local parliaments often simultaneously support road projects, the land-use changes they involve *and* the ambitious climate targets that contradict them. Road infrastructure is discussed in various settings and debates other than climate, often by different politicians, using competing rationalities. In the national road debates, most parties agree that more and better roads are needed. Parliamentarians lobby to get more road funding to their own districts. In the national climate debates, by contrast, the need for more action, such as reducing traffic, is widely agreed upon. All the while, local politicians and planners complain about inherently conflicting goals, both in public settings and in interviews, pointing to the difficulty of achieving the city’s climate goals when road

projects are pushed so strongly. One planner, when asked what the main bottleneck is to achieve the city's climate goals simply responded, "that the car is holy" (interview, land use planner).

In Trondheim, the expansion of National Road E6 passed against the will of some leading local politicians, who favored a rail project instead, precisely due to the goal of zero growth in car traffic. In a debate on public radio, the Deputy Mayor, Hilde Opoku from the Green Party, stated:

The entire project is built on a transport prognosis stating what the expected traffic will be like in 2040. A unified county and the municipality have said that we want to prioritize two-tracked railway on this stretch. Therefore, it does not make sense to us that you start building the road before you have seen the effect of the train solution. Our point of departure is that there is no need for the expansion of this road, and at the same time you have the giant paradox in the fact that the Parliament has decided on a zero-growth goal in traffic.

(public radio debate, NRK, 2016).

The reply from the Vice Minister of Transport, Tom Christer Nilsen from the Conservative Party, was simply that "it is obvious to everyone that we need more and better roads in Norway. (...) this stretch is important both in regard to personal transport, but also the transport of goods" (public radio debate, NRK, 2016). The county governor, in turn, held that a solution to the goal conflict would be found in the future, during negotiation of the Urban Growth Agreement.

Our analysis finds this exchange indicative of how conflicting goals in transport are left unmanaged. The goals are treated as separate matters, both individually important, and are simultaneously advanced on the basis of different rationalities. Avoiding growth in traffic is

argued for on the basis of the climate challenge; road expansion is promoted on the basis of safety, regional development, and job creation. When overarching societal goals conflict in concrete policy measures, such as the E6 project in Trondheim, decision-makers argue for one or the other on the basis of their political ideology. This familiar gridlock of political debates means that the fundamental goal conflict is left unmanaged or is transferred onto some possible future solution.

Localization of Public Infrastructure

The question of where to place large public infrastructure facilities provides another example of how silos and the differences in institutional reasoning play out and become conflicting goals. The siting of the new public hospital in Stavanger was a long process involving state, regional, and local actors, invoking conflicting concerns. Should it be located in the city centre, in conjunction with existing transport infrastructure, and thereby minimizing traffic growth, in line with the zero-growth objective? Or should it be placed outside the city center, close to the university, where construction is easier, cheaper, and near the health education milieu? The Minister of Health, Bent Høie, finally decided to locate the hospital close to the university, which was not the option preferred by the municipality. The municipality and the county governor both voted for what had been labelled the urban alternative, whilst the county council and the state's Regional Health Council argued for co-localization with the university.

County council documents show that the planners in the county preferred the present-day site, particularly for urban development reasons: they considered it the only alternative where the zero-growth objective would be attainable. Analysis of planning documents reveals that municipal and regional planners objected not only to the actual decision but to the knowledge and rationality used by the state's representatives in their decision. The county

council held that “societal goals and non-health-related societal criteria are barely mentioned” in the national state’s reasoning, and that “socio-economic analysis is not part of the decision basis” (Rogaland County Council, 2015, p. 5, our translation). It is clear that local and regional decision-makers lament that the aspect of sustainable urban development was not considered.

The documents, interviews, and media coverage of the process make visible the differences in judgement between governance levels, between sectors, and between bureaucrats and politicians. Each of the conflicting goals—sustainable urban development on the one hand and effective delivery of health services on the other—is handled by different authorities, at different levels. Prioritization between them then becomes a question of who has the authority and legal competence over the final decisions. Thus, the conflicting goals are not actually *handled*, in the sense that they are not properly contrasted, weighted, and prioritized. The letter to the Minister of Local Government from the mayors of the largest cities refers specifically to this situation in Stavanger. It points to the problem of how conflicting goals are compartmentalized in the governance system, to the detriment of climate goals:

there is a need for a greater consciousness about the national climate targets amongst state level departments and authorities [...] national enquiry processes highlighting economic and sectorial interests are done before the planning processes and hence they give the premises for the localization. (...) It is unfortunate if national-level government lay the grounds for a growth in traffic.

This example from Stavanger highlights how the conflicting goals are understood and evaluated differently among authorities within sectors and scales. Although there are arenas where different authorities can put forward their priorities and arguments, the process

becomes a battle of rationalities. Sectorial authorities are bound to consider only the concerns within their own area of competence; for example, the State's Regional Health Council can only emphasize concerns within their own area of responsibility, which does not include climate goals.

In the end, decisions tend to come down to legal authority and institutional logics. There is no overarching position from which to properly balance and weigh the conflicting goals against each other. Ideally, this balancing act would be the task of the overarching authority in a jurisdiction (in this case the Prime Minister at the national level). But the decision is instead, as seems typical, delegated to the health sector, and subsequently framed through the rationality and objectives guiding that sector. What seems required for effectively resolving such clearly conflicting goals is an overarching authority, or mediating institution, to handle decisions.

Strategies of Displacement

Based on our analysis of goal conflicts in the case cities of Trondheim, Bergen, and Stavanger, across the two policy areas of road expansion and the geographical localization of public infrastructure, we can now reflect on how goal conflicts are handled in practice in local climate governance. We have seen that goal conflicts are widely recognized, but at the same time, there is often no clear way to overcome them. What techniques and maneuvers of governance are used to evade, overcome, negotiate or ignore goal conflicts? We call these maneuvers *strategies of displacement*. By “displacement” we mean the act of evading a situation with conflicting goals by moving the decision or one element of the conflict elsewhere. We identify three such strategies:

Temporal displacement: conflicting goals are managed by putting off the contradiction to some future time. The obvious example here is climate goals, which are typically displaced

into a time horizon beyond the term limit of decision-makers currently in office. In our case cities, 2030 is the timeline for major climate and sustainability achievements, but it is unclear how the decisions taken at present put the cities on the path to achieving the 2030 targets. Temporal displacement enables current decision-makers to be ambitious in terms of climate and sustainability, yet at the same time support road expansion, new airport runways, and other measures that likely contradict the climate goals. The response to how to solve these issues is often that traffic-reducing measures and technological innovation and development will solve the long-term effects of new infrastructural materialities.

Sectorial displacement: we can identify a strategy of displacement in how contradictions between goals are hidden by the sectorial division of labor in governance systems. Concrete decisions-- for example, about where to locate a new hospital-- are taken by an authority that does not have climate and sustainability as part of its mandate, and where that location does not figure prominently within its decision-making process. The road expansion projects in our case cities are largely driven by the National Roads Authority, whose mandate is precisely to build roads and much less to meet climate and sustainability targets. Although we identified attempts to reconcile these conflicting goals, for example in the Urban Growth Agreements (Amundsen et al., 2019; Westskog et al., 2020), in concrete decisions such as the localization of a new hospital in Stavanger, it appears that the sectorial authority still prevails. In turn, authorities in each sector focus on the goals within their mandate and pay insufficient consideration as to how goals conflict across sectors. As one politician in Bergen said, “what we need to do is to ‘hack’ the operating manuals of the National Roads Authority” to change the institution’s priorities.

Scalar displacement: the final strategy we identify is that goal conflicts are evaded through the often unclear and contested division of responsibility between local, regional, and national authorities. Municipal authorities often lament that nationally formulated targets,

such as the zero-growth target for private car traffic in cities, are created at the national level and then turned into the responsibility of cities, while national policies and investments fail to follow suit. As the united group of city mayors emphasized in the letter to the Minister of Local Government, national agencies often *ignore* the national state guidelines which they expect municipalities to follow. At the same time, the formulation of ambitious national goals gives municipalities an opening to demand more resources from the national state. In the space created by the tug of war between authorities at different scales, the conflicting goals remain unresolved.

Conclusion

Although the problem of conflicting goals is widely recognized in studies of sustainability governance and planning, much less attention has been given to how conflicting goals are managed. The contribution of this article is to examine how local and urban authorities handle goal conflicts in practice. Our article shifts focus from the more abstract contradictions and trade-offs between overarching goals, to examine the techniques and strategies employed by authorities in concrete decision-making processes. This helps us better understand how conflicting goals are handled and understood in practice, from the perspective of local planners and decision-makers. Our main contribution is to explain how and why goal conflicts persist in planning practice.

Our empirical focus has been goal conflicts between transport and land-use planning and emissions reductions in the three Norwegian cities of Bergen, Trondheim, and Stavanger. Planners and decision-makers are well aware of the conflicting goals between transport and infrastructure development on the one hand, and climate and sustainability goals on the other. At the same time, planners have few tools or processes for resolving conflicting goals in

concrete decision-making processes. Goal conflicts remain unresolved because they are displaced through *strategies of displacement*: temporal, sectorial, or scalar.

So why are goal conflicts displaced rather than resolved? The theoretical perspective we introduced suggests that goal conflicts are the result of and maintained by divergent knowledge, institutions, and material structures. In other words, a set of structural conditions in our governance systems allows goal conflicts to remain displaced, evaded, or ignored. However, we may tentatively propose some suggestions for better handling goal conflicts in practice.

Moving forward, goal conflicts should be more explicitly recognized in planning processes. Rather than displacing goal conflicts, planners might work to systematically identify and transparently discuss conflicting goals. Our analysis found that planning documents to some degree identified conflicting goals in the measures and interventions they proposed, but discussions of conflicting goals should to a much more significant degree be mainstreamed into planning documents, processes, and debates. For example, identifying and discussing conflicting goals could be a mandatory chapter or appendix in municipal plans. This process should be started as early as possible in project development processes, to increase the possibilities of finding viable solutions. That way decision-makers would be better informed about the stakes and broader implications of concrete decisions.

Also, as part of a more systematic and transparent approach to managing conflicting goals, planners and other governance actors should develop and use concrete tools to aid the decision-making processes. For climate change, inspiration can be drawn from climate budgeting of the type currently piloted by Oslo and other cities globally under the auspices of C40, a global network of mayors of major cities. Here planners develop a budget for emissions available within the limits of its long-term emissions targets. This enables the cities to integrate climate considerations across different sectors and plans. Similar budgets can be

developed for land use, environmental change, and other sustainability issues. The budget tool can help make visible how various decisions in planning are interconnected, so more coherent decisions can be made across sectors, time, and scale.

These are tentative suggestions that may help embed the climate and sustainability goals in a city within general decision-making processes. Ultimately, of course, decisions to prioritize sustainability over other interests are typically left with politicians, and sectorial interests will remain. But making them more transparent, and mainstreaming the management of goal conflicts, they can be better informed. Policies can then be developed using cross-sectorial teams of planners and bureaucrats, so that conflicting concerns are highlighted from the beginning of policy processes.

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