

# Knowledge Sharing and Policy Translation through Transnational Municipal Networks

A qualitative case study of C40s Climate Budget Pilot: from Oslo to Mumbai

**Thorvald Storm Nergaard & Olav Skogen**

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Department of Sociology and Human Geography

The Faculty of Social Sciences





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## Abstract

The potential impact of knowledge sharing and policy transfer in achieving desired outcomes in the global effort to combat climate change is the central theme of the thesis. As such, it explores the knowledge transfer process between the City of Oslo and the City of Mumbai through the C40 Climate Budget Pilot. Knowledge sharing is a prevalent practice employed by organizations with common goals, to facilitate innovation and the exchange of effective solutions and strategies. However, studies often reveal that policies or practices that thrived in one context may not function similarly when transferred elsewhere, and at times, may produce undesired outcomes in new settings.

The C40 Cities Climate Leadership Group, a network that seeks to learn from each other in their efforts to confront climate change, operates on the notion that policies or practices may facilitate similar results when transferred between cities. C40 initiated the Climate Budget Pilot to carry out a knowledge transfer process in an attempt to scale up and implement climate budgets in other member cities. Climate budgeting is found to help Oslo achieve its emission reduction targets, which connects the city's financial budget with climate actions and assigns accountability to responsible departments. The thesis focuses on the C40 Pilot program, and the transfer process between Oslo and Mumbai in particular. Mumbai and Oslo hold largely different contexts, which studies suggest may pose challenges for the smoothness and effectiveness of such transfer processes. The overall research question is as follows:

*To what extent has the knowledge transfer from the City of Oslo through the C40 Climate Budget Pilot facilitated a probable implementation of an operational climate budget in the City of Mumbai?*

To address this research question, we have conducted a qualitative case study where we collected data from interviews with individuals from the involved organizations. Theories suggest that knowledge transfers are motivated by organizations' pursuit of legitimacy, and how formal structures might end up decoupled from what is actually done. Additionally, there is an increased emphasis on how policies and knowledge transform during their journey between different contexts.

The thesis contends that the Pilot has largely accounted for the contextual differences between the cities, established shared understandings and cultivated a sense of common ground. However, the Pilot's efforts have not been sufficient to facilitate an effective knowledge

transfer for implementing an operational climate budget in Mumbai for the time being. Our results suggest that the Pilot has faced challenges in engaging key stakeholders, particularly evident in light of the political shift within the Brihanmumbai Municipal Corporation.

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# 1 Introduction

This thesis focuses on the knowledge transfer process between the City of Oslo and the City of Mumbai through the C40 Climate Budget Pilot. The potential impact of knowledge sharing and policy transfer in achieving desired outcomes in the global effort to combat climate change is the central theme of the thesis. Knowledge sharing is a prevalent practice employed by organizations with common goals, to facilitate innovation and the exchange of effective solutions and strategies. However, studies often reveal that policies or practices that thrived in one context may not function similarly when transferred elsewhere, and at times, may produce undesired outcomes in new settings. As exemplified by the UN Sustainable Development Goal 17, collaboration has emerged as a prominent solution, yet its effectiveness has been limited thus far. Numerous instances highlight the limited progress achieved through cooperation agreements, knowledge exchanges, and similar endeavors in addressing the profound challenges posed by climate change.

The urgency of the situation is underscored in The Sixth Assessment Report of the United Nations Intergovernmental Panel on Climate Change (IPCC), which emphasizes the narrowing window of opportunity to secure a livable and sustainable future for all. Furthermore, the IPCC report states that regulatory and economic instruments, if scaled up and widely applied, have the capacity to support deep emissions reductions and strengthen climate resilience (IPCC, 2023). Scaling up successful solutions that have been proven effective in smaller settings may be a fruitful point of departure. Measures implemented in a city like Oslo may have limited global impact in isolation. However, when scaled up and implemented in major urban centers like Mumbai, the potential impact might become significant. Applying even a fraction of the emissions reductions achieved in Oslo, proportionally, in megacities like Mumbai, could yield substantial effects.

Against this backdrop, climate governance tools such as climate budgets (CBs) hold promise as effective instruments for steering the world's cities, which accommodate more than half of the global population, toward a sustainable future. The C40 Cities Climate Leadership Group, a network of cities intended to take a leading role in combating climate change, relies heavily on knowledge sharing—by promoting solutions and practices from its member cities, and encouraging others to implement similar approaches. As such, the network operates on the notion that the transfer of knowledge and policies may lead to similar results in new contexts.

A broad range of literature has explored the effectiveness of knowledge sharing and policy transfers, examining whether they produce desired outcomes and to what extent the transferred knowledge retains the same impact in new contexts. Traditionally, it has been assumed that knowledge and policy can be rather seamlessly transferred without adjustments, as a copy-paste process. However, recent research increasingly recognizes the need to consider how ideas and knowledge transform during their journey between different contexts. Knowledge is found to undergo transformation and reshaping as it encounters numerous interpreters and stakeholders across space and time.

Climate budgeting is argued to be an effective governance tool in Oslo's context. Thereby, C40 initiated the C40 CB Pilot, a program in which 11 cities from the network participated, aiming to learn about and implement an operational CB. By exploring challenges, opportunities, and outcomes of this transfer, the thesis contributes to understanding how collaborative efforts in a transnational municipal network (TMN), through knowledge and policy sharing, can help cities effectively adopt foreign practices with similar results.

This thesis focuses specifically on the C40 pilot program, examining the knowledge transfer between the City of Oslo and the City of Mumbai on climate budgeting. This is done by exploring *to what extent the knowledge transfer through the C40 CB Pilot has facilitated a probable implementation of an operational CB within the City of Mumbai.*

To address this, the thesis adopts a qualitative case study approach to investigate the knowledge transfer between these two member cities of the TMN. Data was collected through semi-structured interviews with individuals involved in the C40 Pilot and/or with experience on CBs. The interview findings serve to assess the presence or absence of key characteristics identified in the literature on effective knowledge transfer through inter-organizational networks, and to determine the extent to which the pilot project has resulted in a likely implementation of the CB governance tool in Mumbai. By critically examining the knowledge transfer between Oslo and Mumbai and its impact on the likely implementation of an operational CB in Mumbai, we find that the efficacy of knowledge sharing and policy transfer is dependent on a number of key factors. These factors include the political nature of policy transfers, engaging key stakeholders such as local elites, and accounting for contextual differences. Our results suggest that the Pilot has successfully accounted for the cities' contextual differences, but has had limited success in engaging key stakeholders, given the

political shift in the governing civic body of Mumbai, the Brihanmumbai Municipal Corporation (BMC).

## **1.1 Roadmap**

The thesis starts with a theoretical framework in chapter 2, clarifying the guiding perspective and approach employed in the study. This theoretical foundation serves as a lens for the analysis of the subsequent research findings. The third chapter will provide a literature review, synthesizing and analyzing previous research on the topic to highlight key themes, perspectives, and gaps in the existing literature. Next will be a brief explanation of the research question, to clearly define the scope and objective of the thesis. The data and methods employed in the thesis are presented in chapter 5, with justifications for the methodological approach the thesis utilizes and its limitations. In the sixth chapter, a detailed case presentation is given to provide a basic understanding of the involved organizations and their relevance, in addition to an overview of the governance tool that has been shared through the C40 CB Pilot. Then a presentation and discussion of the results are given, beginning with a short introduction, followed by an examination of key aspects emphasized by literature and the informants to facilitate effective exchange of knowledge. This part is split into sections to address the overall research question. First it analyzes the organizational structure of the involved organizations followed by the execution of the transfer process through the C40 pilot program, and finally whether our findings indicate the establishment of a foundation for probable implementation of climate budgeting in Mumbai in the near future. The last chapter presents our concluding remarks, as well as suggestions for future research.

## 2 Theoretical Framework

*“Organizations exist within a globally defined and generated culture from which to draw templates of action” (Weber, 2005, as cited in Wooten, 2015, p. 376).*

This chapter aims to offer a comprehensive understanding of organizational behavior, dynamics, and knowledge transfer processes by integrating perspectives from neo-institutional theory and translation theory. This theoretical framework adopts an integrative approach to enhance our understanding of how organizations interact with its environment, and the processes through which knowledge and policies are shared, transformed, and utilized across organizational contexts.

The theoretical framework starts by drawing upon the neo-institutional perspective, which sheds light on how organizations respond to external influences and how these influences shape and potentially alter organizational behavior and structures. This perspective lays a foundation for understanding the mechanisms through which organizations navigate their environments. Furthermore, to shed light on the complexities of knowledge sharing and transfer between source and recipient organizational units, the chapter introduces translation theory. Translation theory has gained attention as a valuable analytical framework by policy-scholars to comprehend how ideas and knowledge undergo transformation as they move across organizational contexts. The approach explores the dynamic nature of knowledge transfer, and provides explanations for how knowledge is shaped and reshaped through the many influences and actors a knowledge construct meets on its journey from one organization to another.

### 2.1 Neo-institutional theory

Institutional theory posits that institutions have a significant impact on social behavior. Institutions are understood as “the humanly devised constraints that structure political, economic, and social interaction” (North, 1991, p. 97), or “systems of rules, beliefs, norms, and organization that can jointly generate a regularity of behavior in a social system” (Greif, 2006, p. 39).

Neo-institutionalism argues that organizations face pressures from their organizational environment, and that their legitimacy, resources, and survival depends on the ability to accept and adapt to those pressures (e.g. Meyer & Rowan, 1991; Eriksson-Zetterquist et al., 2014). The key point of neo-institutional theory is that organizations adapt to pressures more

for reasons of legitimacy than efficiency, to minimize conflict and ensure support from its environment (Meyer & Rowan, 1977; DiMaggio & Powell, 1983, as cited in Johnsen, 2017, p. 20). It departs from earlier institutional theory, which argues that organizations are trapped, and must blindly abide by institutional demands to secure legitimacy and survival.

Neo-institutionalism argues that traditional institutional theory falsely grants organizations “issues of adaptation to changes in its local environment” (Selznick, 1962, as cited in Fernández-Alles & Llamas-Sánchez, 2008, p. 5) and to not adequately consider change. Such a deterministic view, as in the tendency organizations have for conformity and their limited agency, is questioned by neo-institutionalist theory. It posits that organizational outcomes are not predetermined, but instead comes as a result of a dynamic interplay of social, cultural and historical factors. As such, an organization is not only affected by its environment, but also actively influences its environment in a continuous and dynamic process (Eriksson-Zetterquist et al., 2014, p. 253).

To understand organizational behavior and outcomes, neo-institutionalist theory emphasizes how organizations adopt structures, practices, and beliefs to gain legitimacy and survive in their organizational fields (e.g. DiMaggio & Powell, 2000). An organizational field can be defined as a sector or domain of society that has “a common meaning system” (Scott, 1994, as cited in Wooten, 2015, p. 375) and is characterized by groupings of organizations that have similar objectives (Pula, 2016; DiMaggio & Powell, 1983, p. 147). As such, organizational methods are "rationalized myths" that prescribe what is perceived as appropriate norms and values (Meyer & Rowan, 1977, p. 345). Organizational concepts are not adopted on the basis of experience and knowledge, but as institutionalized formulas with symbolic meaning (Røvik, 2007, pp. 50-51). The legitimacy the formulas provide is conveyed by the premise that these formulas are efficient and productive. What is seen as the right formula for an organization is determined by its perceived attractiveness and modernity. Opposing these pressures from its surroundings puts the organization at risk of losing credibility, and appearing outdated.

### **2.1.1 Institutional isomorphism**

A prevalent concept of neo-institutional theory is “isomorphism”, which refers to organizations’ tendency to conform to prevailing norms and practices in order to gain legitimacy in their organizational environment (DiMaggio & Powell, 1983, p. 150). This phenomenon is driven by the pressures previously mentioned, that organizations face in their

respective organizational fields, which creates a tendency for organizations to gradually become more homogenous “in structure, culture and output” (DiMaggio & Powell, 2000, p. 144; Eriksson-Zetterquist et al., 2014, p. 254).

Policy transfers on urban climate governance could be regarded as an instance of isomorphism within the framework of neo-institutional theory (e.g March & Olsen, 1984; Powell & DiMaggio, 2012). Isomorphism is the assumption that organizations become more similar to each other over time. In the context of organizational change, isomorphism can be used to understand how organizational solutions and decision-making processes are influenced by international trends. The underlying assumption is that increased interaction between organizations operating in the same organizational field, will eventually create a shared perception of reality and common norms (Johnstad, Klausen & Mønnesland, 2003, para. 4.1.2). In our case, an urban climate governance domain could be considered one such organizational field.

DiMaggio and Powell (1983, p. 150-152) describe three mechanisms by which isomorphic change occurs. The first form is *coercive* isomorphism, which can be either formal pressure from the environment, often through laws and regulations, or an expectation to change the organization in, for example, a more “modern” direction. Foremost, this happens through political influence, as a result of strong organizations demanding weaker organizations to adapt and conform to formal and informal demands (Eriksson-Zetterquist et al., 2014, p. 254). Such direct impositions of standards, structures and rules can originate from both inside and outside the “governmental arena” (DiMaggio & Powell, 1983, p. 151).

The second form is *mimetic* isomorphism, where an organization changes its structure in the face of uncertainty, and copies practices from other organizations that are perceived to be successful (Eriksson-Zetterquist et al., 2014, p. 254). This might derive from a lack of understanding, or ambiguous goals (DiMaggio & Powell, 1983, p. 151).

The third form, *normative* isomorphism, is related to professionalization of the organizational field, e.g., when organizations recruit people with the same professional background and thus drive the field towards greater homogeneity (Eriksson-Zetterquist et al., 2014, p. 254). While various professionals internally might differ in an organization, they often have large similarities with “their professional counterparts in other organizations” (DiMaggio & Powell, 1983, p. 152).

### 2.1.2 Decoupling

According to Meyer & Rowan (1977, p. 361), decoupling is an organizational behavior that aims to reduce conflicts and maintain legitimacy by separating elements of structure from activities. It results in changes in formal structures that increase the likelihood of survival. Decoupling occurs when there is a lack of coherence between the demands and expectations faced by an organization and the actions necessary to meet them (ibid.). Formal structure may be decoupled from actual practices in the organization. It is a means to gain legitimacy, driven by pressure for conformity and need for legitimacy rather than organizational efficiency (ibid., p. 357). Decoupling results in a dual set of practices including the "formal" and the "actual," i.e. the tension between an organization's presentation and intention on one side and the actual measures being taken on the other hand (Brunsson, 2017, p. 93).

While such adoptions may have a symbolic effect, what is implemented on paper does not necessarily translate to substantial changes in practical implementation. According to Røvik, decoupling is one of the main ways that an attempt to transfer ideas and practices might fail (Røvik, 2007, p. 30), i.e. the "recipe" is adopted but not put into use. Transmunicipal policy transfer through a global city network like C40 could be vulnerable to cases of structural decoupling. Some cities have large differences in how they are organized and structured prior to an attempted transfer of policy or concept. If the concept being transferred is poorly adjusted or does not fit particularly well with the organization's usual practices, a plausible outcome could be instances of decoupling.

### 2.1.3 Theoretical expectations

From a neo-institutional perspective, the attempted transfer of climate budgeting through the C40 Pilot is assumed to be driven by the pursuit of legitimacy. Mumbai and the other participant cities imitate other successful cities, in this case Oslo, that they wish to be associated with. This supposedly provides legitimacy for the Pilot cities, leading to increased status and enhanced reputation. Thereby, the effects and outcomes of implementing CBs might not be the main driver of the policy transfer according to this perspective. Instead, the need to present the organization as modern and legitimate is prioritized. As a result, Mumbai and the other member cities look to others for inspiration, and from this lens might risk overlooking the importance of their own identity and contexts in implementing a CB. The climate governance tool might then become vulnerable to instances of decoupling, and put the

intended positive effects of a well-functioning CB in jeopardy. Therefore, the policy transfer is arguably characterized by rhetoric rather than reality.

## **2.2 A translation approach to knowledge transfer**

The translation approach in organizational theory, introduced by Czarniawska and colleagues, concerns the travel of ideas between and across actors and locations (Røvik, 2016, p. 291; Wæraas & Nielsen, 2016, p. 237). This approach provides alternative explanations for the transfer of practices and ideas, as well as the underlying forces driving these processes. Unlike diffusion models, which portrays knowledge transfer as a process with “passive receivers”, the translation approach suggests that ideas move as “quasi objects”— intangible accounts that transform as they are transferred (Czarniawska & Joerges, 1996, as cited in Røvik, 2016, p. 291). In this view, actors are active translators rather than passive recipients, and power is seen as the outcome, not the catalyst, of the dissemination of ideas (Røvik, 2016, p. 291). As such, translation theory suggests that the power driving the travel of ideas does not stem from a single central agent, but from the multifaceted interpretations and interactions that emerge from each actor involved in the knowledge transfer process. The central argument is that “a thing moved from one place to another cannot emerge unchanged: to set something in a new place or another point in time is to construct it anew” (Czarniawska & Sevón, 2005, as cited in Wæraas & Nielsen, 2016, p. 246).

The transfer of knowledge is regularly examined through the frameworks of “policy transfer” and “policy diffusion”. Yet, such research seldom contends that foreign policies and practices are adopted in its entirety. Complete replications in transfer processes are seen as exceptions (Legard, 2018, p. 176). According to Mukhtarov (2014, as cited in Legard, 2018), these analyses often overlook how ideas themselves transform during their travel from one context to another. Translation theory disputes the aforementioned neo-institutional argument that when organizations adopt the same normative ideas, it leads to a homogenization of strategies and practices, i.e. the isomorphism phenomenon. According to the neo-institutional approach, this puts limitations and restrictions on how practices are implemented and put to use in organizations of the same organizational fields. Several studies suggest that local translation often leads to new and unique versions, with significant variation in structures, routines, and practices (Røvik, 2016, p. 291). Hence, Røvik states that “while everything is everywhere, it is also different everywhere” (ibid., p. 292).



Sahlin-Andersson (1996, as cited in Eriksson-Zetterquist et al., 2014) writes of how organizations, through imitation, become more similar, but at the same time stay different. These differences materialize themselves through local modifications of the model (the organization one attempts to imitate). As a result of the “in-betweenness” or distance between the imitator and the one being imitated, a room for interpretation emerges (Eriksson-Zetterquist et al., 2014, p. 260). After all, one does not perceive oneself as perfectly equal to the model. One is also unique, and will thus act differently than the archetype.

A further development of translation theory is presented by Røvik (2016). In addition to being an analytic tool for understanding the transfer of knowledge, he argues that by drawing inspiration from the discipline of translation studies one might get insights on how to execute translations of concepts to reach desired organizational ends through knowledge-transfer processes (ibid., p. 290).

### **2.2.1 Decontextualization and contextualization**

As an idea travels from its original context to another, it is first decontextualized and then recontextualized, making the idea subject to ample amounts of interpretations and alterations along its journey (Legard, 2018, p. 176). These interpretations and alterations are not arbitrary according to translation theory, but guided by translation rules. According to Røvik (2016), two key arguments lay the basis for his development of an “instrumental” translation theory. Knowledge transfers happen as rule-based translation processes, where the outcomes are impacted by “translation performances”—referring to the ways various actors make use of different editing rules when a concept is decontextualized from its original context and recontextualized as a new representation in the recipient context. The other argument is that “translations make a difference”, i.e. one may be able to analyze and identify more or less applicable translations, in addition to more or less proficient translators in a knowledge transfer process (ibid., p. 291). Røvik uses the term “translation competence”, meaning the ability actors have to translate practices between organizational contexts to reach a desired outcome.

Knowledge transfer, as acts of translation, comprises two vital stages (ibid., pp. 294-296). The initial stage, *decontextualization*, consists of translating a desired approach within a specific organizational setting into a non-concrete depiction, such as images, language, or written material. Røvik (ibid. p. 294) conceptualizes the challenges of decontextualization in terms of the translatability of a practice—the degree to which a desired practice can be rendered down

to a non-concrete depiction and still not lose essential elements that its functioning is dependent on in its source context.

The translatability of a practice rests on three variables: its complexity, its embeddedness and its explicitness. The *complexity* variable is constituted on two aspects. The first is the relationship between technology and individuals engaged in a practice. If the desired practice is heavily reliant on a technology component with a straightforward application, rather than on context-specific human skills, it is less complex and easier to translate—and vice versa (Lillrank, 1995; Argot & Ingram, as cited in Røvik, 2016, p. 294). The other aspect concerns the connection between the practice and the observed results, i.e. causal ambiguity.

Translating becomes harder the more the relationships between the observed results and underlying practices are characterized by complexity and ambiguity. The *embeddedness* variable helps us understand if the skills and knowledge needed is dispersed or concentrated in a single location. The more concentrated, the easier the modeling would be. Finally, the *explicitness* variable entails the explicit or tacit dimensions of knowledge. Explicit knowledge can be clearly expressed through language, written down, codified and effectively taught, such as in the form of manuals and formulas (Nonaka & Takeuchi, 1995; Martin & Salomon, 2003; Zander & Kogut, 1995, as cited in Røvik, 2016, p. 295). In contrast, tacit knowledge is knowledge that is not verbalized, codified, or standardized (Polanyi, 1962, as cited in Røvik, 2016, p. 295). As such, the more tacit knowledge, the harder it is to translate to an abstract depiction.

The second stage, *recontextualization*, entails the translation of this abstract depiction into tangible practices that are materialized to “formal structures, cultures, routines and individual skills” in the new context (Røvik, 2016, p. 295). This stage gives the translators two key obstacles. One is to not miss any crucial elements of the practice’s functioning in the source context, and the other is to not neglect crucial elements and required adaptations for the translation to fit the recipient context. The degree of compatibility between already established practices and new knowledge can both restrict or aid the contextualization process. Consequently, translators need to be familiar with prevailing practices in the recipient context to ascertain how the new idea correlates with pre-existing methods and understandings (ibid. pp. 295-296).

### 2.2.2 A rule-based translation processes

Røvik (ibid, pp. 296-298) introduces three translation modes, referring to distinct intentions and styles of translation performance. Each translation mode has four associated translation rules. The *reproducing* mode refers to intentional efforts to replicate practices in the source context. *Copying* is the associated rule within this mode. This is done in the pursuit of obtaining results similar to those experienced in the original context, through “the exact means in a new location” (Røvik, 2016, as cited in Legard, 2018, p. 176). In the *modifying* mode, translators aim to integrate essential elements of the source practice while making adjustments to fit the recipient context. *Addition* and *omission* are the relevant rules for this mode, which involves adding elements to the translated version, or omitting or toning down certain aspects of the source version. These rules may be applicable in the same settings, as the source and recipient contexts might share similarities in some aspects but differ in others. The last translation mode is the *radical* mode, which occurs when translators feel rather unrestricted by the source version in how to implement the practice to the recipient context. *Alteration* is the associated rule in this mode. Alteration is when extensive transformation and merging of different versions of a practice takes place, which results in a new and unique version in the recipient context (Legard, 2018, p. 176).

### 2.2.3 Contextual conditions

To define what rules are appropriate to utilize in a knowledge transfer process, Røvik (2016, pp. 300-301) outlines a set of “scope conditions”. In a knowledge transfer process—along with the translators—there are three main elements: *the source*, *the transferred knowledge*, and *the recipient and its similarity to the source*. Each of these elements hold specific attributes that signify important scope conditions.

- **Attributes of the source.** Specific facets of the desired practice and its source context provide an important condition for the suitability of each translation rule. The *translatability* of the source’s features stands as the key variable of this element. Its translatability rests on the degree of complexity, embeddedness and explicitness of the source practice. It can vary from high to low depending on these variables.
- **Attributes of the transferred knowledge.** Specific facets of the transferred knowledge construct also represent an important condition for the suitability of each translation rule. The *transformability* of the knowledge construct stands as the key variable of this element. The construct’s transformability is defined through two

factors: its dependency on a strong technological component, and the degree the transfer process faces regulation by authorities. The more a transferred construct is dependent on a specific technology and is regulated by authorities, the less transformable the construct—and vice versa.

→ **Attributes of the relation between recipient and source.** Specific facets of the recipient and how it relates to the source is the last scope condition proposed by Røvik. Features of both the recipient itself and its relation to the source also impacts the suitability of the translation rules. Here, the determining variable is *similarity*. The degree of resemblance or divergence between the recipient and source is argued to be an important condition for which translation rules are appropriate for knowledge transfers. Several studies (e.g., Kostova, 1999; Baker, 1998; Tsang, 2002; Bhagat et al., 2002, as cited in Røvik, 2016, p. 300) relate to insights from translation studies, which indicates that the less similar the organizational contexts (of the recipient and source), the more difficult it is to conduct “proper translations”.

This classification conceptualized by Røvik (2016, p. 304) —with its three modes of translation and four translation rules—both relates to and challenges the duality of replication and local adaptation in knowledge transfer processes (Williams, 2007; Szulanski & Winter, 2002). According to Røvik (2016), the assortment of translation rules is “richer than this dichotomy”, since no rules are appropriate for every context, but might be carefully selected through understanding the key variables (translatability, transformability and similarity) for which rules to apply. Røvik’s translation theory argues that in deciding an appropriate “translation performance” of a knowledge-transfer process, one needs to focus on both the attributes of the source context, the recipient context, and the transferred knowledge itself. Consequently, the term “translation competence” could help us understand how able the involved actors are to transfer practices between contexts in a way that leads to desired outcomes.

#### **2.2.4 Theoretical expectations**

Translation theory provides a valuable framework into how one might analyze policy transfer processes and estimate possible outcomes when cities seek to share and transfer ideas and knowledge with each other through networks like C40. It contests with the notion that organizations, in the pursuit of legitimacy, simply conform to prevailing norms and practices. The translation theory approach makes the argument that although organizations are becoming increasingly similar, they stay different—as a result of the “travel of ideas” where

there will always emerge room for interpretations (Eriksson-Zetterquist et al., 2014). As Røvik puts it (2016, p. 294), although “everything is everywhere, it is also different everywhere”. This can help us identify specific factors that may influence the appropriate translation mode, and which rules might have been applied in the policy transfer process. Although, one must be wary that these may only give slight estimations as to whether the translatability, transformability and similarity elements of the knowledge transfer actually influence what rules the translators apply.

### **3 Literature Review**

This chapter presents a brief overview on the literature of how knowledge and/or policy transfers function, as well as factors that enable or hinder successful transfers. In addition, it presents arguments regarding knowledge sharing in inter-organizational networks and necessary conditions found to facilitate such processes among network participants. Lastly, a set of perspectives on the challenges cities face in acquiring and implementing effective climate action measures are presented.

In the last decades there have been many studies on how knowledge is transferred in the attempt to identify effective ways to conduct such processes, as well as which barriers knowledge transfer processes face. However, there is no scarcity of examples of how the sharing of ideas and knowledge does not easily result in desired or intended outcomes. The literature points to various critical factors that must be understood to enable the implementation of sensible and well-informed ways of sharing innovation and knowledge—as well as how the knowledge should be adopted and implemented with consideration to contextual differences. On the issue of climate change, some also understand it to be further problematized by referring to the issue of climate change as a "wicked problem", in that it has ambiguous goals and solutions, and are constrained by real-world limitations that impede the identification of risk-free solutions. The intricate interconnections among various elements of a wicked problem like climate change may lead to the emergence or exacerbation of other issues when attempting to resolve one specific aspect.

#### **3.1 Foundations and structures of knowledge transfer**

Parts of the literature on organizational learning and organizational knowledge can be seen as divided into two streams (Wæraas & Nielsen, 2016). The works of Chiva and Alegre (2005) and Easterby-Smith et al. (2002) reflects this dichotomy, where one view treats knowledge as a commodity that can be stored and replicated to gain a competitive edge, while the other emphasizes learning and the socially constructed nature of knowledge development and transfer. As reflected in the translation theory perspective mentioned in chapter 2, there is also an increasing recognition of knowledge translation as a distinct phenomenon, which implies that knowledge undergoes modifications in content, form, and presentation during transfer across contexts.

### 3.1.1 Defining the conversion and transfer of knowledge

According to Hartley & Benington (2006, p. 104), the diverse forms that knowledge can take and the processes involved in its creation, transfer and application indicate that the pursuit of a single “optimal method” for knowledge dissemination is misguided. This points to a possible overvaluation of explicit knowledge, conveyed through for example webinars, presentations and reports. For example, in a study of one particular knowledge transfer process, Downe et al. (2004, as cited in Hartley & Benington, 2006) found that the amount of inter-organizational learning was significantly less than expected, particularly from explicit knowledge sharing.

Hartley and Benington (2006) find it to be misleading to understand knowledge transfer as only the movement of explicit knowledge like a “drag-and-drop” process—from one context to another. Knowledge creation and organizational learning is found to require active leadership, facilitation and management if one is to overcome barriers between competing interests in a city or municipality. As such, there is a need for both horizontal and vertical learning in an organization (ibid., p. 106). Knowledge transfers between public organizations have two types of “practitioners”: those employed by the organization, and those who govern it. Accordingly, organizational theory literature has been criticized to neglect the importance and power of those leaders (ibid., p. 105).

Merely receiving knowledge does not guarantee changes leading to improvement and innovation; it must also be applied effectively within the recipient context (ibid., p. 106). This aspect often poses the greatest challenge in the knowledge transfer process due to several reasons. Similar to Røvik, Hartley and Benington (2020, p. 107) present four features that can facilitate or hinder the creation and sharing of knowledge in and between organizations:

- The characteristics of the source organization with its ability to identify, express, and convey knowledge.
- The facilitating processes involved in the exchange or sharing of knowledge.
- The characteristics of the recipient organization that enable it to identify, interpret, and apply knowledge to promote effective practices, often through modification or adaptation.
- The policy’s context, which affects the extent to which knowledge is shared, with whom and for what benefits and costs.

### 3.1.2 Knowledge transfer in inter-organizational networks

Marchiori and Franco (2020, p. 131) notes that for knowledge to have an impact and be converted into value, it needs to undergo a series of processes to be “correctly contextualized, compiled, categorized, stored, spread and used” and potentially be corrected and reutilized. Barbeira (2012, as cited in Marchiori & Franco, 2020) states that organizations should be able to manage knowledge effectively, and handle its multifaceted nature. Looked at from a wider perspective, the act of sharing knowledge is defined as “transferring or disseminating knowledge from one person, group, or organization to another” (ibid.).

Social networks play a significant role as a catalyst for inter-organizational knowledge sharing. In such processes individuals act as both creators and receivers of knowledge. Barbeira (2012, as cited in Marchiori & Franco, 2020) contends that organizational networks facilitate social interaction which in turn can foster trust and reciprocity, ultimately enabling knowledge transfer between network members and adoption of practices. In addition, it is essential for organizations to have “absorptive capacity”, referring to their capability to leverage existing knowledge and use it to understand new information and thereby create new knowledge from it (Cohen & Levinthal, 1990, as cited in Marchiori & Franco, 2020). In other words, what matters most is not viewed to be the source’s knowledge construct, but rather the way the transferred knowledge is acquired and utilized by the recipient (Minbaeva et al., 2003, as cited in Marchiori & Franco, 2020).

Policy learning resulting in policy change is a complex endeavor, involving many actors within the learning network in diverse and dynamic processes (Lee & van de Meene, 2012, p. 201). For the effective sharing of knowledge in networks, studies find that several requirements must be met, such as successful experience exchange, cooperation, understanding organizational cultures and incentives, and establishing strong relationships that fosters trust among members (Barbeira, 2012; Soekijad & Andriessen, 2003, as cited in Marchiori & Franco, 2020, p. 131). Furthermore, Hartley & Bennington (2006, p. 105) assert that knowledge sharing is not simply accomplished by bringing organizations together around a common goal or by developing trust among members. Instead, they find that the most effective inter-organizational networks are often those that are explicit and frank about the differences that exist between members of the network in terms of objectives, ideologies, and interests.



### 3.2 Policy learning: “failure” or “success”?

According to Diane Stone (2017), a number of researchers point to an apparent gap in the literature with a noticeable lack of analysis that connects policy transfer processes to their outcomes (e.g. Fawcett & Marsh, 2012, as cited in Stone, 2017). However, when linking policy transfer to policy failure, the study of policy transfer might end up as “the object of debate” instead of analyzing the social processes that a policy transfer is constituted by. Stone challenges the notion that policy transfer can be deemed as a failure, or be unsuccessful, and links it to a rationalist approach of certainty that disregards the importance of errors or mistakes. Policy and knowledge transfer literature frequently portrays transfer agents as mere rational actors that can optimize actions, find potential solutions and make decisions on which policies or ideas are appropriate to adopt (McCann & Ward, 2012, p. 327, as cited in Stone, 2017). By challenging these assumptions, Stone argues that there should be an increased recognition and appreciation of trial-and-error approaches to policy translations and implementations.

Dolowitz & Marsh (2000, p. 17) makes the argument that a “failed” transfer is more likely when the transfer is uninformed, incomplete or inappropriate (or several of them at once). *Uninformed transfer* occurs when a policy is transferred with limited knowledge of why and to what extent it functions in its original context. *Incomplete transfer* takes place when only some features of the policy are transferred, and its success in the original context is at least partly dependent on the excluded feature(s). *Inappropriate transfer* is the result of significant variations in contextual elements, like political, economic, or cultural conditions, which leads to different end results in the source and recipient context of the policy transfer (Stone, 2017, p. 5). “One size fits all”-policies are presented as an example of these “failed” transfers, exemplified by how the International Monetary Fund (IMF) and the World Bank in many ways used “modes of direct and indirect coercion of client countries to conform” with their standards and policies, which lead to corruption or other unexpected outcomes in member countries (ibid.).

In Stone’s words (ibid., p. 8), there is an increased recognition of a need for local elites to take the lead in policy transfer initiatives. An active “appropriation of knowledge” from the policy elites of the recipient needs to be in place if foreign “best practices” or models are to be effectively implemented and integrated. Appropriation of knowledge in this context is the process of how knowledge is constructed by drawing on social and cultural sources, and how

it is integrated into pre-existing frameworks and practices (Billett, 1998). By establishing a shared comprehension and local bases of support for a transfer process, this can be viewed as the “soft-side” of policy transfer (Stiglitz, 2000, as cited in Stone, 2017, p. 8).

To implement a policy, specific institutional mechanisms for learning, adopting, and contextualizing the policy must be established. Thus, Stone (2017, p. 8) argues that the transfer of policy ideas is often largely contingent on a receptive environment. This marks a change in the perspective of analysis from considering whatever is transferred (e.g. an idea or policy) as the main “source of explanation” to what inevitably propels change. Instead, an analytical lens that accentuates the inherent uncertainty and politicking involved in “the *acceptance* of transferred policy” is seen as more pertinent and compelling in elucidating policy adoption and change (ibid.). Learning within and between organizations is a part of political processes, meaning local government leaders are important actors (Rashman et al. 2009; Rose 1991, as cited in Lee & van de Meene, 2012, p. 206). Accordingly, Lee & van de Meene (ibid.) contend that where responsibility for climate policies lie with top executive officers, a city is more likely to actively seek information and learn from other cities.

By taking attention away from the notion that transfers are inappropriate, incomplete or uninformed, one might better understand how policies are not “internally coherent, stable things” (Stone, 2017, p. 10). This discards the view that policies are fully formed in one context, and then moves as a fully formed construct across time and space. Valuable insights into how a policy develops in new contexts are provided by occurrences of unintended consequences and misinterpretations of information, as they are integral parts of “the continuous metamorphoses” that policies undergo in a transfer process (ibid., p. 10). Adopting such a stance of how policy ideas are transmitted shows the importance of translation and interpretation. Policy translation is proposed as a better analytical starting point, and represents a move away from the understanding of transfers as a linear process. Policies, as they travel through professional communities and time, undergo not only a spatial transfer, but are also altered and modified by the active agents a policy meets on its journey (ibid., p. 11).

### **3.3 Institutional barriers and breaking down silos**

In 1973, Horst, Rittel and Webber (as cited in Ney & Verweij, 2015) introduced the term “wicked” to describe the most challenging problems that decision-makers face. These problems are difficult to solve because they are unique, have a wide range of possible causes and solutions, involve many individuals and organizations, require significant investments of

time, may create new problems when a solution is implemented, and lack absolute correct solutions (ibid., p. 1679).

Cities and municipalities are increasingly considered as essential in tackling the urgent and complex challenge of climate change. However, the wicked nature of climate change presents a unique issue, as the current organizational structures of departments in cities and municipalities are often specialized and sectorized, often referred to as silos. This presents a significant barrier to effective action on climate change, which requires a more integrated and collaborative approach that may not align with existing structures. Addressing climate change is a sector-wide responsibility, but implementing measures that span across city departments may compromise the work and goals of these departments (Oseland, 2019, p. 347).

A silo refers to the sectoral division of management, whether by tasks or thematic division, that inhibits cross-sectoral work. As climate change is viewed as a seemingly impossible puzzle to be solved within an institutional composition that is unfit to tackle the challenge, the division within the governmental structure is poorly set up to deal with climate change challenges (Innes and Booher, 2010, as cited in Oseland, 2019, p. 347). Climate change expertise is often concentrated within the environmental department of a city or municipality. However, they are often marginalized within the organizational hierarchy of local government and have limited capacity to implement planning policy (Oseland, 2019, p. 347). The silo effect created by departmental separation, including differences in leadership, administration, focus area, resources, and the background of planners and policymakers, is a significant barrier to addressing climate change.

According to Oseland (2019), climate action planning offers promise as a potential solution to break down institutional barriers and overcome organizational silos, enabling cities and municipalities to address the challenges of climate change through effective climate governance (Oseland, 2019, p. 345). Oseland suggests that integrating climate issues into other divisions of policy and planning in a city is necessary to break these institutional barriers. Thus, Climate Policy Integration (CPI) argues for comprehensive local climate planning, because the "root causes of climate change are embedded across several sectors" (Adelle & Russel, 2013, as cited in Oseland, 2019, p. 346). Climate budgeting is a governance tool that can be understood as a step towards mainstreaming climate action across departments and responsibilities. The CB is integrated as a policy tool by going from being a

part of an environmental plan in the environmental unit to having its own chapter in what is “the real steering document of the entire municipality” (p. 351).

As Oseland (2019) argues, overcoming institutional barriers at the local level requires three factors: broad processes, political will, and institutional entrepreneurs. Broad processes means the inclusion of various departments in constructing climate action plans (CAPs) or CBs. Political commitment and will affects what can be achieved and how plans are made, thus influencing the role of the planner. Institutional entrepreneurs, whether organizations or individuals, are critical in obtaining indirect political commitment for climate adaptation by framing the issue as an added value to existing political objectives. To contrast the need for a CAP or similar climate governance tools to overcome institutional barriers, Kasa, Westskog, and Rose (2018, as cited in Oseland, 2019) argue that regulations primarily legitimize climate policy by linking it to other policy areas, and have limited influence on mitigation policies at early stages. Moreover, if municipalities are already very ambitious or disinterested in climate action, regulations have no particular effect. Other studies suggest that the success of local climate efforts by municipalities is mainly attributed to citizens' environmental preferences rather than climate plans, which codify outcomes that would have been achieved anyway (Oseland, 2019, p. 345-347).

### **3.4 Summary**

Despite the considerable prominence of knowledge sharing in and between organizations, numerous examples demonstrate that the exchange of ideas and knowledge does not necessarily result in desired outcomes. Moreover, international efforts to foster innovation and share policy solutions to address the climate crisis have often fallen short of expectations. The literature highlights several critical factors that must be understood to enable sensible and well-informed approaches to sharing innovation and knowledge. Contextual differences play a pivotal role in determining how knowledge should be adopted and put to use. Effective knowledge sharing in inter-organizational networks is argued to require more than common goals and feelings of trust among members. Studies have found that the most effective networks are often explicit and frank regarding contextual differences in terms of goals, ideologies and interests between its members. Furthermore, the notion of knowledge or policies as stable and fully formed constructs is deemed misleading, as unintended consequences and interpretations are inherent to the transfer process. Policy learning within and between municipalities is intertwined with political processes, emphasizing the

importance of political buy-in and support from local government leaders and executive officers.

Additionally, the complexity of climate change is underscored by its classification as a "wicked problem," characterized by ambiguous goals and solutions, along with issues of identifying risk-free solutions. Resolving one aspect of climate change may give rise to or exacerbate other interconnected issues. To overcome institutional barriers, the significance of cross-sectoral cooperation and breaking down silos are presented as important elements in addressing the intricate challenges of implementing effective climate governance policies.

Overall, the chapter presents literature and studies regarding knowledge transfer processes and the role of climate planning. It highlights the need for context-aware approaches to knowledge transfers, the political nature of knowledge sharing, and how knowledge and policies are not stable and fully formed constructs. The intricacies of addressing climate change is recognized as a wicked problem, and the importance of political will, cross-sectoral cooperation, and overcoming institutional barriers to achieve effective climate governance is underscored.

## 4 Research question

The aim of this thesis is to explore the effectiveness of knowledge sharing and policy translation of climate governance strategies through TMNs. Measures implemented in relatively small cities are understood to have limited global impacts, but if governance measures are upscaled and implemented in urban centers like Mumbai, the impact might be significant. The C40 CB Pilot has been initiated as an attempt to carry out a knowledge transfer process in order to scale up and implement CBs in other member cities. The purpose is to assess the outcomes of the knowledge sharing initiative in the C40 Pilot, and identify what processes and considerations are found to facilitate or hinder the effectiveness of the transfer process. Therefore, the overall research question is as follows:

*To what extent has the knowledge transfer from the City of Oslo through the C40 CB Pilot facilitated a probable implementation of an operational CB in the City of Mumbai?*

To coherently address our research question, the thesis draws on theoretical expectations and previous literature. From a neo-institutional standpoint, knowledge transfers are motivated by organizations' pursuit of legitimacy. Additionally, according to translation theory, even as organizations are argued to become more alike, they still maintain their distinctiveness as ideas and knowledge transform during their journey between different contexts. The literature emphasizes the importance of local government leaders for learning between organizations, and breaking down silos to address climate change.

We have established three guiding objectives within the sub-chapters of our results and discussion in order to answer our overall research question:

Firstly, we will examine the organizational frameworks and approaches to environmental and climate work in the involved organizations, as well as their implementation of climate budgeting. This enables us to discuss the potential implications of organizational similarities and differences on the knowledge transfer process.

Secondly, we will explore and analyze the execution of the C40 CB Pilot program, providing a comprehensive understanding of how the knowledge transfer and insights related to implementing a CB have been shared and put to use.

Lastly, we outline key considerations for an effective transfer process, and the central facilitative or hindering factors for implementing a CB in Mumbai.

## **5 Data and methods**

This chapter presents the methodological choices for the collection and processing of data in order to answer our main research question. To do so, we have conducted a qualitative case study of the city corporations of Oslo and Mumbai, and the C40 organization. The initial focus of this chapter is on the reasons for selecting a qualitative research design. Additionally, it explains the sampling process of expert and elite informants, the construction of the interview guide, conducting, transcribing and coding the interviews, the plan for data analysis, ethical considerations of the project, and the study's validity and reliability.

### **5.1 Choice of methodology - an abductive design**

The purpose of this thesis is to gain insight into three processes. The first one being the knowledge and policy transfer process from the City of Oslo to the City of Mumbai through the C40 network. The other two will be delineating how the two cities have structured their organizations to implement a CB, and identify key factors that might facilitate or hinder an effective policy transfer. It is important to note that the thesis makes no attempt to measure the effectiveness of climate budgeting as a governance tool. It only concerns the knowledge transfer process on climate budgeting between organizational contexts.

Qualitative research is an effective method for investigating intricate phenomena that cannot be easily measured with quantitative studies. Qualitative research finds its application in gaining insight into human experiences, circumstances, and also to comprehend the culture, values and beliefs of individuals (Kalu & Bwalya, 2017, p. 43). Given the fact that we aim to research individuals and organizations as actors in a complex process of knowledge transfer and organization, we determined that conducting a qualitative case study on the involved parties was the sensible option. The selection of a qualitative case study was also largely based on the limited number of individuals affiliated with climate budgeting. Thus, opting for a case study allows us to dig deeper into the experiences and perceptions of these individuals in order to develop a broader understanding of the issues at hand (Kalu & Bwalya, 2017, p. 47).

In order to enhance the validity of our research, we have also conducted a document review of both internal and external documents from the involved organizations and previous literature on similar policy translations. The advantage of using documents as a data source is that they already exist in the context, without interfering with or modifying the environment as an

investigator's presence might. Additionally, using documents is not reliant on the cooperation of individuals, whose participation is crucial for gathering data through interviews (Merriam, 2002, p. 12-13). Combining interviews with document and literature review also helped us prior to constructing the research design and the interview guide.

The initial document and literature review formed the basis for our planned deductive research approach, utilizing previous research on similar cases and existing theoretical perspectives. However, as we progressed and gathered data through interviews and additional documents, it was evident that a combined inductive and deductive approach would be more effective. Through empirical observations following our interviews, we recognized the need to incorporate additional theoretical perspectives. Consequently, we adopted an abductive approach that allowed us to combine both deductive and inductive approaches (Tjora, 2017, p. 18). As we progressed, we continued to adjust our approach based on unexpected empirical discoveries and theoretical insights gained throughout the process. This approach encourages productive cross-fertilization, allowing us to develop new combinations from a blend of established theoretical models and new concepts derived from real-world encounters (Dubois & Gadde, 2002, p. 559).

## **5.2 Selection of research topic**

Climate budgeting is a relatively new concept in the municipal policy field. Prior to the Pilot, Oslo was the only city in the world with a CB, while the other participating cities in the Pilot are preparing to launch their first budgets in the coming years. Thus, little research has been made on climate budgeting on an international scale. On that account, we came into contact with the Norwegian Consulate General in Mumbai who presented a window of opportunity to shed light on the importance of Mumbai's participation in the Pilot. He put us in contact with a C40 official for a preliminary background talk. Together with the person concerned, we discussed possible areas of research that could be of relevance to future CBs, and provide a meaningful contribution to the existing research on policy transfer and the sharing of climate governance strategies.

## **5.3 Sampling**

There is a limited number of people with in-depth insight into the Pilot and CB work in general. These individuals typically possess specific knowledge that is hard to come by in the (so far) niche field of climate budgeting. Although the Pilot is world spanning in size, the



teams working to implement the CBs are mostly small and specialized. The City of Oslo is obviously an exception to this, as the climate budgeting work has been spread across the departments since 2017. With this in mind, few people in and around the Pilot possess the knowledge and hands-on experience needed to contribute with significant insight to our research questions. Our sample therefore consists of Officials from the City of Oslo, the City of Mumbai, World Resources Institute India (WRI), and external individuals and researchers with knowledge on climate budgeting.

Considering the small population of relevant informants within our case of study, we decided to identify possible informants using purposive expert sampling. Purposive sampling is the deliberate choice of a participant due to the qualities the participant possesses, and is a non-random technique that does not need a set number of participants. In our case, this involves identifying individuals that possess expert knowledge on the Pilot or CB planning within their own organization. As Etikan, Musa & Alkassim (2016, pp. 2-3) notes, the idea behind purposive sampling is to concentrate on people with particular characteristics who will be able to assist with the relevant research. Expert sampling can be beneficial in situations where the research is anticipated to require a significant amount of time to yield definitive results, or when there is a lack of observational data currently available. It is also particularly useful when investigating new areas of research (Etikan, Musa & Alkassim, 2016, p. 3).

These elements are highly present in our case, as a big part of our case study constitutes a new area of research. The same can be said about the time needed to yield definitive results, as the CB has not yet been implemented in Mumbai. In this instance, talking to experts would most likely provide the most comprehensive results. According to Meuser and Nagel (1991), an expert is someone who is in some way responsible for the development, implementation or supervision of a problem or who has privileged access to information about people or decision-making processes (as cited in Froschauer & Lueger, 2009, p. 221). Accepting this definition of the term “expert” would mean that many of our informants can be described as an expert as they wield decision-making power and have access to privileged information.

## **5.4 Recruiting informants**

Our sample is a rather small and specialized group. The individuals in our sample typically hold high-ranking positions as experts or municipal officials. This situation presents multiple challenges, both for recruiting informants and for conducting interviews (more in section 5.5.2). The first problem was getting in touch with informants we considered relevant. In the

purposive expert sampling process, we searched through various documents to highlight individuals of particular interest to our thesis. At the very beginning of the recruitment process, we tried to get in touch with them via email. We decided not to contact them through the contacts we had established earlier to ensure the anonymity of the informants (Kvale & Brinkmann, 2009, p. 107). We succeeded in recruiting one City of Oslo official and one external consultant. However, despite our efforts to reach out to the remaining individuals, we found it challenging to elicit a response without leveraging our pre-existing network. This initiated a process of snowball sampling. This method is particularly useful when reaching out to people that would otherwise be very difficult to get in touch with. In this method, the initial participants are recruited using a predetermined criterion, and they are then asked to refer to other individuals who meet the same criteria. The newly referred individuals are then contacted, assessed for eligibility, and invited to participate in the study (Naderifar, Goli & Ghaljaie, 2017, p. 1-4). A potential disadvantage is that the key person may lead the researchers into a specific network and have control over who participates, which can further threaten the anonymity of the participants (Tjora, 2017, p. 136). It was difficult to avoid the potential network issue in this case, given the limited number of individuals who have worked on or currently work on the Pilot. However, we concluded that seeking input from people outside the Pilot would not have provided the necessary insight to answer our research question effectively.

In order to address the network issue, we established contact with several points of contact to recruit new informants. Our initial contact in C40 was used as a reference point for recruiting other informants. In addition, the person concerned was later used as an informant. As this informant had a vast network of individuals we sought to engage with, we depended on this contact's help to get the snowball rolling to reach out to suitable informants. The contact put us in touch with a C40 official in India, who then referred us to two officials in WRI India. The informant we recruited from the City of Oslo further referred us to another City of Oslo official. For the interviews in India, we were assisted by a local contact who put us in touch with informants we sought to interview there. In total, our sample consists of eleven informants. The informants' name, age, gender and position are withheld to maintain confidentiality considerations, but the organization they are affiliated with can be described as follows:

- Two informants from *the City of Oslo*. The City is responsible for a wide range of matters, such as providing social services to residents and other activities that are not

decided on a national level, while they are also responsible for dealing with environmental issues and urban planning. As per the informants, international collaboration, particularly concerning climate-related matters and solutions, constitutes an integral component of the city's official strategy. The interviews with the two informants were done separately.

- Two informants from *C40 Cities*. C40 is a network of mayors from almost 100 leading cities working together to address the climate crisis. According to the C40 informants, the Pilot has been a huge success, and they are now preparing to expand the Pilot to include several other cities. The interviews with the two informants were done separately.
- Two informants from WRI India. WRI has been assigned the task of preparing the implementation of the CB in Mumbai. The informants from WRI were interviewed together in a paired interview. WRI India is an independent charity that provides objective information and practical proposals to foster environmentally sound and socially equitable development. Their work focuses on building sustainable and liveable cities and working towards a low carbon economy (WRI India, n.d.).
- Three external informants. One Norwegian consultant who has worked directly on the CB in Oslo and has done research on behalf of C40. The second informant is an Indian climate correspondent in the region of Mumbai. The last external informant is an Indian researcher and co-author on the IPCC's (The Intergovernmental Panel on Climate Change) 6th Assessment Report. The organizational affiliation of the informants will not be disclosed to ensure anonymity. The interviews with the three informants were done separately.
- One official from the Government of Maharashtra. A high-ranking official in the Government of Maharashtra, with decision-making power within the environment department.
- One politician who recently served in the Government of Maharashtra. The high-ranking politician held decision-making power within several departments.

## 5.5 Data collection

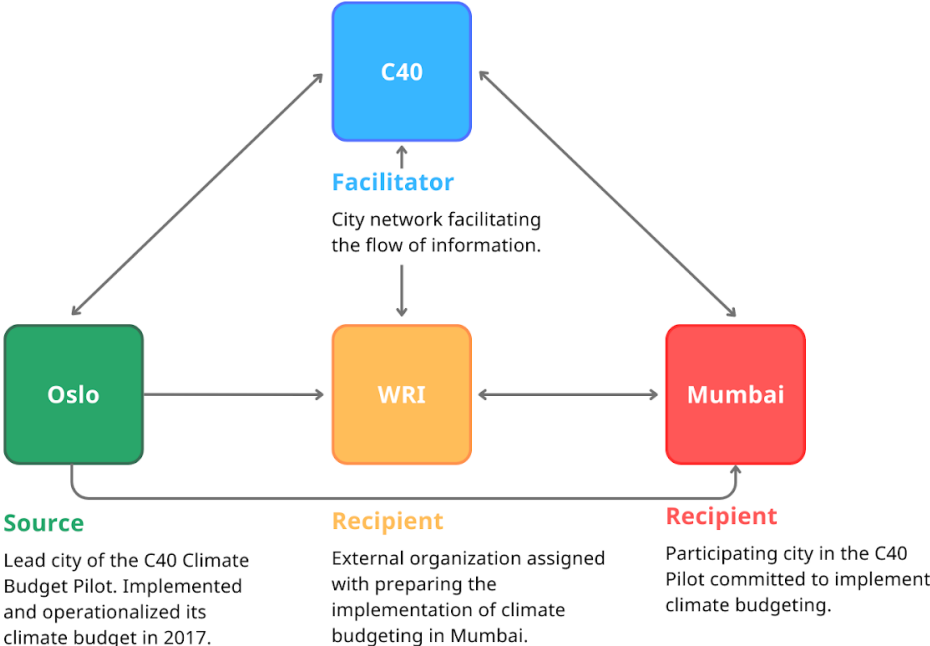
The data collection in this thesis was done through interviews. This section will describe how the interview guides were constructed, how the interviews were conducted, and lastly how the data was transcribed and processed.

### 5.5.1 The interview guides

As previously stated, conducting an initial document search was crucial in establishing the key themes and technical questions related to climate budgeting. This approach was necessary to gain a comprehensive understanding of the intricacies of climate budgeting and to ensure effective communication with the informants by speaking the same jargon.

Since there are four different organizations with different roles in this case study, we found it necessary to individualize the interview guides based on the informant’s organizational affiliation and role. We drafted four semi structured-interview guides (see appendix 1 for a merged version) primarily based on the organizational affiliation of the informant. The roles of the organizations are described in Figure 5.

**Figure 5**  
*The main organizations involved in the knowledge transfer*



To ensure coherence in both the interviews and our research objectives, we structured the interview guides into different sections of themes based on the informants' roles and organizations (Kallio et al., 2016, p. 2959). Our aim was to create a cohesive structure of clear and organized questions that would benefit the informants. As part of the warm-up process, we began by asking the informants simple questions about their organization and their role within the organization. We then categorized questions into themes such as international

collaboration, the Pilot, organization of climate budgeting, and more technical questions about climate budgeting. As not every theme was applicable to each informant, we selected the relevant themes based on their specific role within their organization.

To enhance the quality of the interviews, great care was taken to craft the wording and sequence of questions in accordance with McNamara's (n.d.) "General Guidelines for Conducting Interviews". The approach began by asking the informants about factual information and progressed to more advanced facts and personal opinions later in the interview. Each informant was first asked to describe their role in the organization and help create an organizational chart related to the Pilot and climate budgeting. We used a specific question formulation which was stated as follows: "Can you describe how the work with the CB is organized in your organization? (...) Can you help us draw some kind of organizational chart?". Later in the interview, we asked questions that had the intention of displaying personal opinions rather than organizational facts. For instance, one question posed to a C40 official was: "Do you feel that there is broad engagement from Mumbai in the form of being knowledge-seeking when it comes to the implementation of their CB?". According to Jimenez and Orozco (2021, p. 510), utilizing this type of question formulation can be an effective means of eliciting significant events and experiences. Lastly, we allowed the informants to provide any other information they would like to add, as well as their impression of the interview (McNamara, n.d., p. 1-3).

To effectively cover the range of topics in our interviews, we formulated three main types of questions. Background questions were designed to get to know the informants, knowledge questions were intended to provide useful information, and opinion-based questions were designed to prompt the informants to reflect on the process of climate budgeting (past, present, and future) (McNamara, n.d., p. 2). In the wording of these three types of questions, we were careful to formulate the questions as clearly as possible while seeking to maintain neutrality.

Lastly, to ensure that our interview guide was effective and efficient, we conducted an internal pilot test prior to the interviews. This guide included core questions from the preliminary interview guides and was designed to confirm its coverage and relevance. The pilot test allowed us to identify and reformulate any questions that required clarification or refinement. Additionally, we aimed to ensure that the interview duration stayed within the committed time frame of 45-60 minutes (Kallio et al., 2016, p. 2960-2961).

### 5.5.2 Conducting the interviews

This study collected data from informants in both Norway and India. For the four Norwegian informants, our plan was to conduct face-to-face interviews. However, two interviews were conducted through Microsoft Teams. Having face-to-face interviews has several advantages, including the ability to establish a personal connection and build rapport with the interviewee, observe their body language, and clarify any confusion or misunderstandings that may arise. Digital interviews can also offer benefits to both the interviewer and the interviewee, as they provide flexibility in scheduling and can save time and effort that might otherwise be required for in-person meetings.

Initially, we had planned to conduct digital interviews with the informants located in India due to the project's short time frame and lack of funding. However, gaining access to relevant informants proved challenging without a physical presence in India. Several contacts with expertise in Norwegian-Indian relations strongly advised us to travel to Mumbai for in-person interviews. Luckily, the Department of Sociology and Human Geography at the University of Oslo provided funding for our trip. Visiting India opened up opportunities to connect with informants that might not have been possible from Norway.

It was crucial to find a quiet location for in-person interviews and to ensure the informants had a functional microphone while on Teams so that we could transcribe the interviews accurately later on. To conduct our in-person interviews, we mostly visited the offices of the informants. This allowed us to have a private and quiet atmosphere for the interviews, which was also the case for the digital interviews. At the start of each interview, we explained all the practical details regarding the project and the interviews, such as the duration and format of the interview, and how to get in touch with us later on. We also made sure to remind the participants of the purpose of the interview as well as the terms of confidentiality, which was explained in the information letter sent prior to the interview (McNamara, n.d., p. 1). We then asked the participants for their consent to record the meeting via the UiO Diktafon-application. All of the informants consented to this.

As stated in section 5.5.1, the interviews were conducted in a semi-structured format. A general interview guide was provided to the informants approximately one week prior to the interview, with the understanding that we might ask follow-up questions that were not included in the interview guide. Every interview proceeded differently in terms of the amount of the additional questions needed. Although each informant provided extensive and detailed

answers on fact based questions regarding their organization, we occasionally had to encourage the informants to elaborate on the questions reflecting their own opinions. One possible explanation for the need to encourage informants to elaborate on their personal opinions is that their expertise and professional affiliation may have influenced their tendency to provide factual information rather than subjective opinions. As experts in their field, they may have been accustomed to providing objective and verifiable information rather than personal opinions. Additionally, their affiliation with both the Pilot and their respective organization could have contributed to their cautious approach in expressing their own opinions, as they may have been mindful of potential conflicts of interest or negative repercussions.

### **5.5.3 Transcribing and coding the interviews**

Transcribing the interviews is essential to make the interview conversations accessible for analysis (Kvale & Brinkmann, 2019, p. 204). We transcribed the interviews using “Autotekst”, an artificial intelligence (AI) tool developed by UiO. However, as the accuracy of the AI transcription can be affected by various factors such as non-audible sounds and mumbling, we had to carefully review and correct errors by listening to the audio tapes. Additionally, selected quotes were translated from Norwegian to English by us for the purposes of this study. The selected quotes from every interview were eventually transferred to a separate document where we could categorize the quotes into abductively designed codes.

In our coding approach, we utilized a combination of identifying predetermined themes and emerging themes from the interviews. Initially, we developed a set of codes based on previous literature and documents, using a deductive approach. However, upon analyzing the interview transcriptions, we found it necessary to add additional codes to fully cover the scope of our research question. This was due to the consistent use of terminology by the informants that was previously unfamiliar to us, but proved crucial in enhancing our understanding of both the research field and the pilot project. We took inspiration from the Gioia method (2012, p. 21) in identifying concepts emerging from the quotes in the interviews in order to categorize them into different themes. We created a total of 22 themes which were further categorized and placed into what Gioia refers to as aggregate dimensions. These aggregate dimensions later provided the foundation for the structure of our analysis.

## 5.6 Limitations

This chapter has touched upon several limitations of our study. The most apparent limitation is related to our chosen case, as Mumbai is still in the planning stage of implementing a CB. Therefore, we can only rely on indications of how this process will unfold in the future. In this regard, the interviews we conducted play a crucial role in providing insights into how the information that flows from Oslo through C40 will further influence the development of Mumbai's CB. It may therefore be too early to conclude whether this leads to an implemented CB or not. While the reliance on interviews means that our findings lack tangible results, they still provide valuable information that helps paint a picture of what we can expect to see in the future. Nonetheless, we acknowledge that these limitations may weaken the basis for our conclusions.

The thesis has also been unable to engage all the relevant organizations, as attempts to meet with current government officials in the BMC proved unsuccessful despite multiple efforts. Additionally, it's crucial to acknowledge that the findings may not be free of biases from both the informants and ourselves. The majority of our informants are involved in the Pilot project, and may have a vested interest in withholding negative information that could potentially harm the project or their organization's reputation. As the Pilot is a highly regarded initiative, any criticism of its participants or contents may reflect poorly on their organization or the Pilot. Therefore, there is a risk that the information we have gathered may be skewed towards a more positive portrayal of the project, potentially jeopardizing the objectivity and validity of our findings. In terms of interpreting the results of the research, it is important to consider the potential biases and limitations of elite informants. Politicians and government officials may have their own agendas or not be fully aware of certain issues, possibly impacting the accuracy and validity of their responses.

We must also acknowledge that the order in which we collected our data may have predisposed us to confirmation bias during our interviews in India. We collected data in Norway in early March 2023, and our interviews with Indian informants were conducted in late April. The first set of interviews provided us with insights into what to expect in Mumbai and what should be our focus when conducting the interviews there. The time between our first interviews and our trip to India also gave us the opportunity to extensively research climate budgeting work in Mumbai and make modifications to our interview guide accordingly. This might have led to a confirmation bias, as our knowledge and expectations



may have influenced the way we conducted the interviews in India. On the other hand, this can also be regarded as a strength since we were able to obtain more extensive data on specific themes, which gave us a deeper understanding of the situation in Mumbai.

Lastly, although almost half of the original data originates from Norwegian informants, we have chosen to write and analyze the data in English. We took measures to ensure that the data's content was not lost in translation during the analysis and translation process. While we attempted to remain as faithful as possible to the original text, we recognize that this decision could be viewed as a potential weakness in our study.

## **5.7 Validity and Reliability**

Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are (Golafshani, 2003, p. 599). The validity of our qualitative case study is rooted in our approach to data collection and analysis. In this thesis, we aimed to research whether the policy transfer on climate budgeting from Oslo through C40 to Mumbai was likely to be successful. By doing so, we decided to conduct in-depth interviews with experts who were involved in or familiar with the climate budgeting Pilot in Mumbai, providing us with a comprehensive understanding of the policy transfer process. By interviewing individuals from different organizations and levels of authority, we were able to gain a diverse range of perspectives on the subject matter. Despite our rigorous methodology, there are potential threats to the validity of our study. Our data collection and analysis were carried out during a specific period, and it is possible that our findings may not reflect changes that have occurred since then. Lastly, our sample size was relatively small, which limits the generalizability of our results to other contexts. Our research may however be applicable for organizations and municipalities in future climate policy transfer processes.

Reliability refers to the consistency of results over time and the degree to which they accurately represent the entire population under investigation. If a study's results can be reproduced using a similar methodology, the research instrument is considered to be reliable (Golafshani, 2003, p. 598). To ensure the reliability of our study, we have taken measures to maintain transparency throughout the research process. We have provided detailed accounts of the choices made during the study, including their respective benefits and drawbacks.

Additionally, we have endeavored to provide contextual information about the organizations from which the informants were recruited, while also maintaining their anonymity to the best of our ability.

## 5.8 Ethics

The protection of human subjects or participants in any research study is imperative (Orb et al., 2000, p. 93). In order to ensure the privacy and confidentiality of our informants, our project has taken ethical concerns such as informed consent and confidentiality. Personal data such as names and workplaces were collected, as well as more sensitive information regarding personal experiences about political processes. For projects that collect such data, approval from both participants and Sikt, the Norwegian center for storage of research data, is required. We have taken steps to comply with these requirements, and all data gathered during the interviews has been stored securely and in accordance with privacy regulations. Legal access to personal data was granted by Sikt, as indicated in Appendix 2. All of the data was stored in Lagringshotell, a data storage service provided by UiO, and will be deleted at the end of the project. The audio tapes of the interviews were transcribed and deleted within ten days after the interview. Furthermore, all participants provided informed consent through an information and consent letter, which is included in Appendix 3. The consent letter provided detailed information on how participants could reach us if they wished to make any additions to their responses or withdraw from the project. We understand that the informed consent process is an ongoing one, and participants may change their minds about their involvement in a study. Therefore, we made it clear in the consent letter that participants could contact us at any time to make changes or withdraw their participation.

Throughout the research process, we have taken great care to maintain the anonymity and confidentiality of our informants in order to protect their privacy and ensure their safety. We understand that a breach of anonymity could have consequences for our informants, particularly given their involvement in political processes. As such, we have taken steps to ensure that their identities remain confidential, while also ensuring that the data collected is still useful for analysis. However, since the individuals working on the Pilot constitute a rather small group of people, identifying the informants may be possible. While we have removed personal identifying information such as names and contact details, we have retained most organizational affiliations for the sake of the analysis (e.g. “City of Oslo official”). This is essential to understand the role of organizations in the Pilot, and to draw meaningful conclusions from the data. The organizational affiliation of the informants outside the Pilot will not be disclosed to ensure anonymity (e.g. external consultant, Oslo).

To enhance confidentiality, we took additional measures by sending all the quotes we intended to use in our thesis to the informants for review, revision, and approval. In social science research, it is common for the interviewer to have the sole authority to interpret the interviewee's statements. The interviewer acts as the "big interpreter," possessing the exclusive right to interpret and report the interviewee's intended meaning (Brinkmann & Kvale, 2006, p. 165). However, by involving the informants in the quote review process, we aim to reduce the interviewer's monopoly of interpretation and ensure a more collaborative and transparent approach to our research.

## 6 Case Presentation

The primary area of focus in this thesis is how climate policies are transferred and translated in TMNs, more specifically through the C40 organization. Thereby, this chapter will explain what the case study entails by describing why the C40 CB Pilot and the cities Oslo and Mumbai are of interest.

The chapter starts by describing the purpose of C40 as a global city network for combating climate change, and why C40 decided to initiate a pilot program based on climate budgeting. Thereafter, the unique roles and contexts of Oslo and Mumbai will be put forward, to elucidate the challenges and opportunities that might be present when insights are to be shared between different cities. By attempting to draw inspiration, upscale and implement strategies for climate action from other parts of the world, megacities like Mumbai—especially in the Global South where people are particularly vulnerable to the devastating effects of climate change—could take a leading role in developing sustainable urban areas. Lastly, an explanation of what a CB entails and how it functions in Oslo is presented.

The content of this chapter is mostly based on reports and articles from the three organizations' own websites and publicly available local or national government resources. In addition, information from a climate advisor in the City of Oslo is used to briefly exemplify a typical climate budgeting process.

### 6.1 C40 Cities Climate Leadership Group

C40 defines itself as “a network of mayors of nearly 100 world-leading cities collaborating to deliver the urgent action needed right now to confront the climate crisis” (C40, n.d.). By being at “the forefront of climate leadership for more than a decade”, the C40 network sets out to place climate action and environmental justice “front and center” in the cities' local policies and on the international agenda (C40, n.d.).

“Megacities” (Iberdrola, n.d.) is a term that describes cities with a population exceeding 10 million. Originally, as C40 was founded in 2005, 18 such megacities came to agree on cooperating for reducing climate pollution, and thus formed C20. Then, the following year, 22 more mayors were invited to the network to ensure a balancing of cities in the Global West and the Global south, which concluded in a network of 40 cities, hence the name became C40 (C40, n.d.).

For the most part, the C40 network consists of megacities like London, New York, Mumbai, Istanbul, Beijing and the like. Being granted a membership in C40 is based on a set of performance-based requirements to “ensure the integrity of C40 as a network of climate leaders” (C40, 2021, p. 4). C40’s “Leadership Standards” demonstrate the minimum requirements that are laid out for its member cities from 2021-2024 (see Figure 1).

**Figure 1**  
*C40’s Leadership Standards*

<b>Leadership Standards</b>	
<b>1. Plan</b>	<b>2. Deliver</b>
City has adopted a resilient and inclusive Climate Action Plan which is aligned with the Paris Agreement ambition to keep global heating under 1.5 °C, and updates it regularly.	In 2024, the city remains on track to deliver its Climate Action Plan, contributing to increased resilience, equitable outcomes and halving C40’s overall emissions by 2030.
<b>3. Mainstream</b>	<b>4. Innovate</b>
City uses the necessary financial, regulatory and other tools at their disposal to address the climate crisis and mainstreams their inclusive climate targets into the most impactful city decision-making processes.	City innovates and starts taking inclusive action to address emissions and climate risk beyond the direct control of the city government, such as those associated with goods and services consumed in their city.
<div style="background-color: #ffff00; text-align: center;"><b>5. Lead</b></div>	
Mayor and the city demonstrate global climate leadership and inspire others to act in support of the Paris Agreement.	

*Note.* From C40 Annual Report 2021, 2022, p. 4. ([https://www.c40.org/wp-content/uploads/2022/03/C40\\_annual\\_report\\_2021\\_V10.pdf](https://www.c40.org/wp-content/uploads/2022/03/C40_annual_report_2021_V10.pdf)). In the public domain.

The C40 network’s basis is city-to-city sharing, meant to enable best practices on climate action to be shared around the world. C40’s main mission is to reduce greenhouse gas (GHG) emissions of its member cities by 50% by 2030, improve equity, and help build resilient cities and conditions that allows “everyone, everywhere, to thrive” (C40, 2022, p. 4). According to the C40 Annual Report 2021, C40 consisted of 97 mayors with more than 1,500 city officials being engaged through C40 networks.

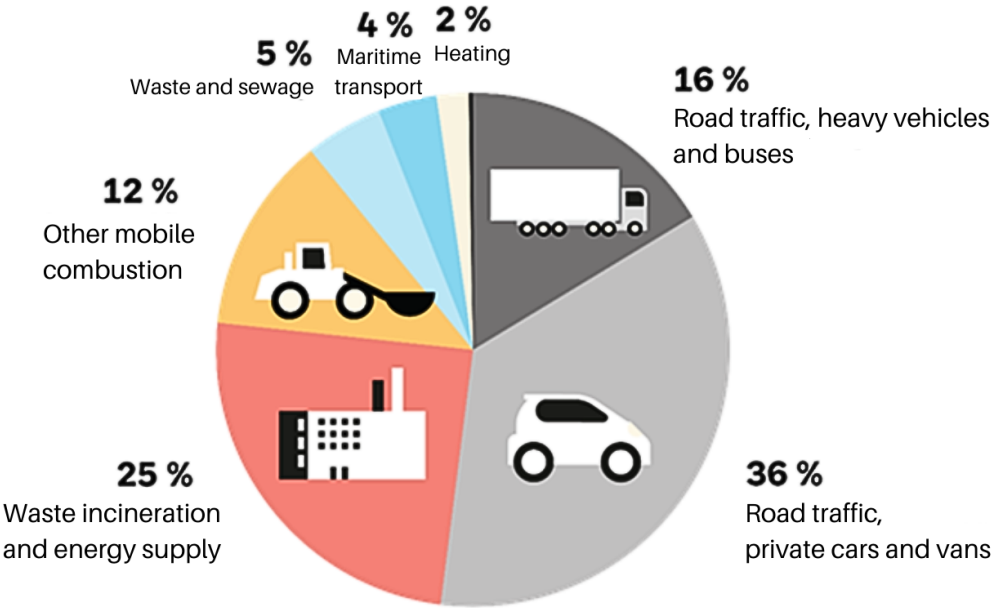
While C40 is intended to lead the way in how large and highly populated cities can take climate action, smaller cities such as Oslo, Heidelberg, Stockholm and Amsterdam are members of C40 to take on roles as “Innovator Cities” (C40, 2023). These cities, although not megacities, are supposed to hold important roles by trying out and coming up with solutions

and best practices that might later be fruitful to try and replicate in the larger, more populous cities.

### 6.1.1 Oslo as an “Innovator City”

One Innovator City is Oslo. Oslo has been a member of C40 since 2012. As of January 2023, Oslo’s governing mayor, Raymond Johansen, was elected a member of the C40 Steering Committee as a representative of the C40 Innovator Cities (C40, 2023). As C40 puts it, “Oslo has adopted the most ambitious climate targets set by any capital in the world” meant to be achieved through a number of initiatives like “clean construction” (C40, 2022), institutionalizing climate action into the regular city budget through the use of CBs, and attempting to place climate leadership at the top of the city’s agenda. Figure 2 shows the GHG emissions in Oslo based on emission sectors according to data from the year 2020.

Figure 2



GHG emissions in Oslo based on emission sectors; 2020.

Note. Adapted from City of Oslo, 2023, p. 31. ([https://oslokommune.framsikt.net/2023/oslo/bm-2023-sak\\_1\\_b2023/#/generic/summary/introduction/47a07db9-8de3-44e5-90e6-1f794f395803-cn](https://oslokommune.framsikt.net/2023/oslo/bm-2023-sak_1_b2023/#/generic/summary/introduction/47a07db9-8de3-44e5-90e6-1f794f395803-cn)). In the public domain. Our translation.

In 2017, Oslo was the first city to introduce a CB, (C40, 2016) and has been developing its climate budgeting process since then. The city’s Governing Mayor (Johansen, 2022), and Oslo’s Climate Agency (KlimaOslo, 2023), both make the claim that its CB played a large role in the decreased direct GHG emissions that have been reported through calculations by The Norwegian Environment Agency. Oslo is one of Europe’s fastest growing cities, located

on the southeastern coast of Norway, surrounded by the Oslo Fjord, and could be argued to hold a number of advantages when it comes to taking action to reduce its GHG emissions:

Oslo is the capital of Norway, a country with a sound and strong economy. This means that the city has access to noteworthy financial resources to support and fund its climate initiatives. Norway also holds a “pole position” on electrification (SWEACO, 2019) and has one of the world’s strongest renewable energy sectors (Renewables Norway, n.d.).

Another example is that the city has a firmly ingrained aspiration to be a “green capital” and ambassador for sustainable urban development (e.g. City of Oslo, n.d.; European Commission, 2019). In 2019, Oslo was awarded the European Green Capital title for having scored the highest of the competing cities against 12 environmental criteria (European Commission, 2019). This ingrained political stability and willingness to put climate action as one of the city’s main attributes might make it easier to set and deliver on ambitious GHG emission reduction targets.

Lastly, the city is relatively small population-wise, with about 700,000 inhabitants. This is likely to increase Oslo’s capability to allocate resources and for example implement effective infrastructure for biking, walking, public transportation and car-free zones. Implementing measures with significant impact percentage-wise on a city’s carbon footprint might be easier in smaller cities like Oslo.

Overall, these factors give Oslo a strong foundation to continue decreasing its carbon footprint, and has given the city an opportunity to take on its position as a leading innovator city on sustainable urban development and climate action. In other words, Oslo might have a greater capacity to implement comprehensive approaches like climate budgeting in an effective manner, compared to other cities that have other characteristics and foundations.

### **6.1.2 Mumbai: A megacity of the Global South**

Mumbai, the capital of Maharashtra, is India’s most populous city and serves as the nation’s primary commercial and financial hub (Raghavan, 2023). With a diversified economy, Mumbai boasts thriving industries in finance, media, entertainment, manufacturing, and technology. The city houses numerous large corporations that benefit from highly skilled and educated workforces. Moreover, Mumbai fosters a vibrant ecosystem for startups and innovation. Still, alongside its strengths, Mumbai faces significant challenges. The city grapples with extensive informal settlements, notable income equality, issues of

overcrowding, and environmental concerns such as air and water pollution. Its large informal sector and substantial slum population also complicates public regulation and monitoring of its inhabitants.

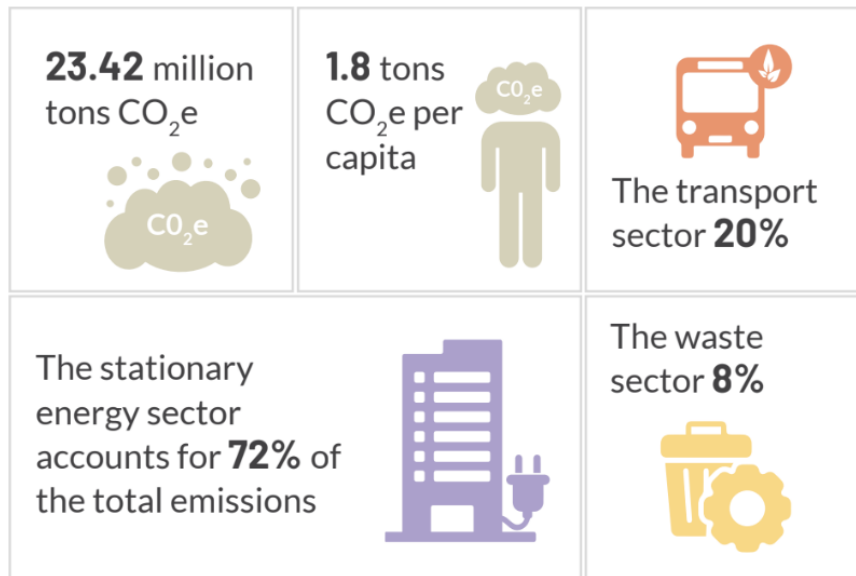
Mumbai joined C40 in 2020, as one of six current Indian member cities in the city network (C40, n.d.). The city is located in the western coastal region of India, and is situated in one of the most vulnerable areas to climate change, in stark contrast to Oslo. According to data from a XDI Gross Domestic Climate Risk analysis, the state of Maharashtra ranks amongst the top 50 most at-risk states and provinces globally for climate change impacts in 2050 (XDI Cross Dependency Initiative, 2023). The central city of Mumbai is home to over 12 million people, while the metropolitan area is inhabited by over 24 million people, making it one of the largest and most densely populated cities in the world. Its vast population density combined with being located in a region prone to extreme weather events, makes Mumbai particularly susceptible to the impacts of climate change.

In recent years, Mumbai has experienced a rise in average temperatures, an increase in the frequency and intensity of heat waves, severe flooding due to heavy rainfall, and an increasing level of air pollution. With a pollution of over 23 million tons of CO<sub>2</sub> in 2019, Mumbai's emission levels are almost 18 times bigger than that of Oslo (1.4 million tons). However, it is important to note that Oslo has a slightly higher emission level per capita (2 tons of CO<sub>2</sub>, compared to 1.8 in Mumbai). Mumbai's biggest source of emissions is the stationary energy sector which accounts for 72% of the total emissions in the city (MCAP, 2022, p. 28). India and Mumbai are heavily reliant on burning coal as a source of energy, which has severe repercussions for its air quality and total GHG emissions. In 2023, from January 29 to February 8, Mumbai was the second most polluted city in the world, only beaten by Lahore in Pakistan (Roy & Tembhekar, 2023). Figure 3 illustrates an overview of Mumbai's total GHG emissions and the sector distribution for the base year 2019 of the 2022 MCAP.



**Figure 3**

*Total GHG emissions for the base year 2019 in Mumbai*



*Note.* From Mumbai Climate Action Plan 2022, p. 28.

([https://drive.google.com/file/d/1gU3Bnhk3UJ\\_wCFaMC1ognZBdsdDkQBY1/view](https://drive.google.com/file/d/1gU3Bnhk3UJ_wCFaMC1ognZBdsdDkQBY1/view)). In the public domain.

To cope with the numerous climate related challenges that Mumbai faces, the city signed C40's Deadline 2020 commitment (India Water Portal, 2022). This means that Mumbai has aligned with the Paris Agreement, committing to reduce GHG emissions by 50% by 2030, as well as becoming net zero by 2050. Mumbai has developed its first CAP called the Mumbai Climate Action Plan (MCAP) to meet the C40 Leadership Standards. In order to arrive at its overarching mitigation target of net-zero emissions by 2050, Mumbai has committed to achieving 30% reduction by 2030, 44% by 2040 and net zero by 2050. In the MCAP, the BMC committed to start working on implementing a CB (MCAP, 2022, p. 25), with the help and insights from its participation in the C40 CB Pilot. Noteworthy, a political shift within the BMC government took place shortly after the previous administration made the decision to join the Pilot.

As mentioned, WRI India has been assigned the task of preparing the implementation of the CB in Mumbai. WRI is an independent research organization that works with governments, businesses, and civil society to combat climate change and address India's development challenges. Their work focuses on building sustainable and liveable cities and working towards a low carbon economy (WRI India, n.d.)

## 6.2 The C40 Climate Budget Pilot

The CB Pilot is led by the City of Oslo, and completed its first phase as of December 2022, lasting about a year and a half. Oslo's CB process was used as a point of departure. By sharing insights about Oslo's successes and failures, the CB Pilot aims to try out and understand what could and should be copied or modified in the Pilot cities. The Pilot has sought to facilitate CB implementations in a way that accounts for the cities' own contexts and starting points (Wray, 2021; C40, 2021). The cities that participated in the first phase of the pilot were Mumbai, Oslo, Barcelona, Los Angeles, Milan, Montreal, Stockholm, Berlin, Tshwane, Paris and Rio de Janeiro (Wray, 2021). According to a C40 official, the first phase was a "great success", and the pilot is on track to take on its second phase from 2023-2024, with close to twenty new cities joining in.

## 6.3 Climate budgeting: A tool for urban climate governance

A CB is a governance system that facilitates the execution of short term actions in order to achieve a city's medium- and long term targets in their overall plan. This overall master plan is typically referred to as a CAP (Endrava, 2022, p. 5). The purpose of a CB is to reduce a city's GHG emissions by presenting the effects of different measures and distributing the responsibility of implementation within the different departments in the city (KS, 2021). Climate budgeting is a whole-of-government approach. This means that the budget assigns accountability to each department for carrying out different measures, thus fostering transparency about what actions are being taken and where the city is not on track to reach its goals (Johansen, 2022, p. 62). Climate budgeting is meant to ensure that a government thinks holistically to both keep in mind and keep track of how every decision and action being taken would impact a city's capacity to reach its climate targets (City of Oslo et al., 2021, p. 5). In term, the desired objective of a CB is to mainstream climate action by coordinating climate measures across the traditional interdepartmental silos in the city government.

A CB aims to mainstream climate action by interlinking emission targets and measures with the most important policy document in a city: the financial budget (KS, 2022). This means that a CB builds on an already existing governance system. By connecting climate goals and measures to the financial budget, the CB can ensure that climate measures are financed, proposed, adopted, implemented, monitored and reported in line with the budget cycle. This can help a city track GHG emissions alongside their finances (Johansen, 2022, p. 62). What separates climate budgeting from other municipal climate mitigation measures, is that the CB

is owned by the chief financial officer (or equivalent). Previous mitigation efforts have traditionally been carried out by climate departments in a city, typically weaving little jurisdiction over decision-making in other departments.

### **6.3.1 How does a climate budget work?**

GHG emissions accounting serves as the foundation of a CB. It provides an overview of the city's emissions and a comparison of emissions on a yearly basis, which enables an assessment of the effectiveness of the measures implemented. In Norway, Miljødirektoratet (The Norwegian Environment Agency (NAE)) maintains records of GHG emissions for all municipalities and county municipalities dating back to 2009, which in most of the municipalities serves as a base year for their CBs. A base year is the year that is used as a basis for comparing the development of emissions in later years. The records from NAE cover the sources of emissions within the geographical borders of the municipality (Miljødirektoratet, 2019). The city will then establish emission reduction targets on a short- and long term basis based on the emission levels in the base year. This is a political process, and the reduction targets will be reflected by the elected officials' level of ambition.

When a municipality has chosen their base year, it needs to define the system boundaries for the CB. The municipality has to decide whether to concentrate solely on the municipality as an entity or to also include emissions from the residents and businesses within the municipality. The second issue to decide is whether to only focus on direct emissions or to also include indirect emissions (City of Oslo et al., 2021, p. 8). Direct emissions are emissions that occur inside the geographical borders within the municipality, while indirect emissions include emissions outside these borders as a consequence of consumption of goods and services inside the municipality. The system boundary determines the instruments chosen to reach the emission targets, and to calculate the effects of measures in relation to the reference path. The reference path is an estimate of a business as usual-scenario on how the emissions will continue to develop if new measures are not implemented. This will give the municipality an overview of how much and where emissions will have to be reduced in order to reach the reduction targets. A CB includes information about which measures are implemented and the estimated cost of these measures. Furthermore, most measures are quantifiable so that the city can estimate the effects of each measure in relation to the reference path. This will decide if the planned measures are sufficient to reach the reduction targets, or if enhanced efforts are needed (Miljødirektoratet, 2020).

### 6.3.2 Oslo's 2023 Climate Budget

Oslo's 2023 CB serves as an example of how a CB can work in practice. The CB is integrated into the financial budget of the city, which means that the CB is not something that happens "on the side" if the city has time and money. Instead, this is a politically adopted budget using the existing formal governance system. In the process of constructing the CB, every department and their underlying agencies are encouraged to request measures to the CB in line with political goals. The departments are assisted by the climate agency with climate expertise on estimating emission impacts on the proposed measures (City of Oslo official).

An example can be used to demonstrate the process and the interaction between the different departments and the Climate Agency:

The urban planning agency may indicate the need for funding to set up additional electric vehicle charging stations for heavy vehicles at the beginning of the year. This may align with a suggestion from the Climate Agency that there is a necessity for more such charging stations. As the year progresses into early spring, this proposal will be refined and evaluated towards the final budget conference. If the government chooses to allocate funds to this initiative, the measure will also be included in the final CB (City of Oslo official).

Oslo has chosen a system boundary that is limited to the emissions within the geographical borders of the city. Oslo's Climate Strategy for 2030 presents a GHG reduction target of 95% compared to the emissions in 1990, with a subgoal of 52% reduction in 2023 from the 2009-levels. The 2023 budget is presented for the financial planning period from 2023-2026, and presents a number of measures and tools distributed among the different municipal entities. The effects of the measures are both calculated by the end of 2023 and the end of 2026. The responsibility for implementing measures is distributed to the different department(s), and this involves reporting requirements similar to those for financial reporting.

Table 1 shows an extract of seven of the total 27 tools and measures in Oslo's CB for 2023. GHG reducing measures are listed for waste incineration and energy supply, waste and sewage and road traffic, while the responsibility for implementing these measures are distributed among the relevant departments and municipal entities. Lastly, the effects are quantified in metric tons of CO<sub>2</sub> equivalents for 2023 and 2026. For the measures that cannot be quantified, effects are calculated through more uncertain qualitative interpretation. So, for

example: Measure number 6 is a part of the overall measure to deal with the road traffic in Oslo, which is to establish a zero-emission zone in the car-free city area. The entities responsible for implementing this are the Urban Environment Agency (Bymiljøetaten (BYM)) and the Climate Agency (Klimaetaten (KLI)). The star behind BYM indicates that it is the BYM's responsibility to report on the progress on the measure. The reporting should include a brief description of the adopted measures within each sector, what causes the emissions in this sector, as well as what is required to further reduce the emissions beyond the adopted measures. This reporting will make the foundation for where the city has capacity, and where they need to strengthen their efforts to reach their overall target. As the table indicates, the municipality does not expect any progress on establishing a zero-emission zone in 2023, but expects that the effects in 2026 should lead to a GHG emission reduction of 6400 metric tons of CO<sub>2</sub>.

**Table 1**

*Example of measures and means presented in Oslo's CB 2023-2026*

Emission sector/ measure	No.	Tools/measures	Responsible	Effect 2023	Effect 2026
				(Metric tons CO <sub>2</sub> eq.)	
<b>Waste incineration and energy supply</b>					
Emission-free production of district heating	1	Establishment of gas boiler for district heating from landfill gas	REG* , EBY	200	300
Waste incineration with carbon capture	2	Carbon capture at Klemetsrud	Hafslund Oslo Celsio/NOE	0	103 100
<b>Waste and sewage</b>					
Extraction of landfill gas	3	Maintenance of landfill gas facilities at Rommen and Grønmo	EBY*, REG	Not calculated	

Road traffic					
Overall measures	4	New toll rates in the toll ring		17 200	18 200
	5	Purchase of emission and fossil-free vehicles in the municipality	Everyone*, UKE*	1 100	1 000
	6	Establishment of zero-emission zone in the car-free city area	BYM*, KLI	0	6 400
Reduced traffic	7	Incentives for increased cycling and walking (grant for climate-friendly job trips, cycling infrastructure)	BYM*, KLI*	Facilitating measures	

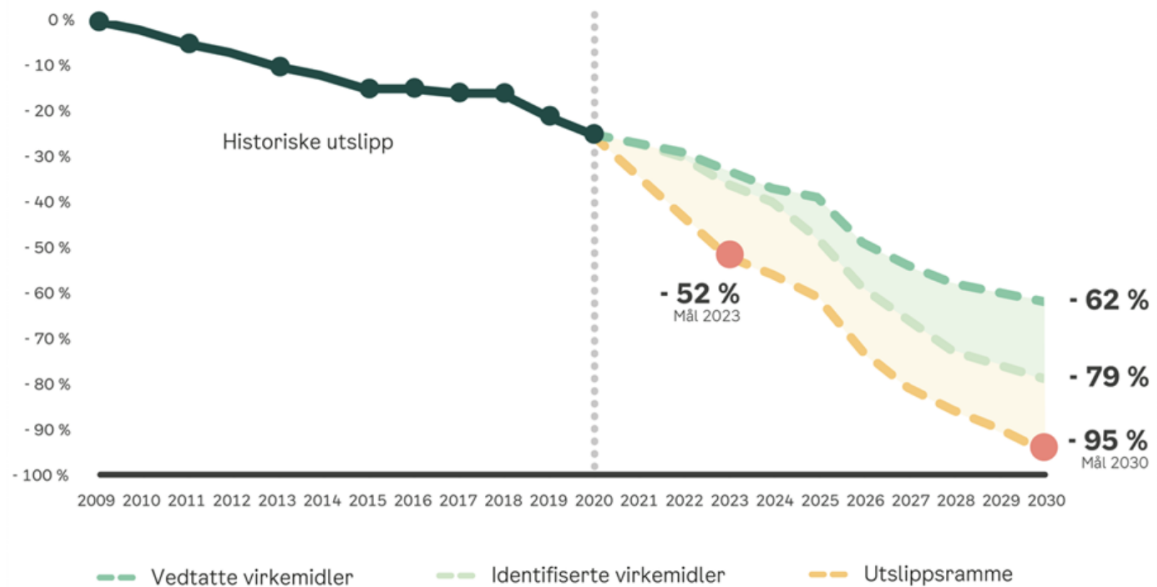
Note. From City of Oslo, 2022, p. 35.

(<https://www.oslo.kommune.no/getfile.php/13463199-1663756099/Tjenester%20og%20tilbud/Politikk%20og%20administrasjon/Budsjett%20regnskap%20og%20rapportering/Budsjett%202023/Budsjettforslag%202023/B2023%20Sak%201%20PDF-versjon.pdf>). In the public domain.

Figure 4 displays the projections of different reference paths for future reduction cuts within the CB. The respective projections are respectively based on the city's adopted measures (dark green dotted line), new identified measures (light green dotted line) and the politically adopted target emission framework (yellow dotted line). However, the estimated effects of the existing and identified measures are uncertain due to a number of reasons. The measures may have a greater effect than anticipated, but could also have a lower effect if they are not sufficiently followed up on. Macro-related development such as a change in national climate policy could accelerate or decelerate the emission reductions. The municipality of Oslo lists a few reasons that have affected previous reference paths, and could continue to affect future projections: High gasoline prices, electricity prices, the coronavirus pandemic, and the war in Ukraine. Additionally, technological innovations that streamline climate action could be an accelerating factor to move closer to the target emission framework for 2030 (City of Oslo, n.d.).

**Figure 4**

*Estimated GHG emissions towards 2030 as a result of already adopted measures, potential emission reductions with new identified measures, and the target emissions framework to reach the 2030 target*



*Note.* From City of Oslo, 2022, p. 47. (<https://www.oslo.kommune.no/getfile.php/13463199-1663756099/Tjenester%20og%20tilbud/Politikk%20og%20administrasjon/Budsjett%20regnskap%20og%20rapportering/Budsjett%202023/Budsjettforslag%202023/B2023%20Sak%201%20PDF-versjon.pdf>). In the public domain.

## 6.4 Summary

In this chapter the three organizations that our case study involves has been described: the C40 Cities network, the City of Oslo, and the City of Mumbai. In addition, the policy transfer instrument of our study, the C40 CB Pilot is presented. Finally, the chapter has given a brief explanation of the climate budgeting approach. The information laid out in this chapter especially seeks to illustrate why Oslo and Mumbai comparatively are cities of particular interest to climate policy transfer and translation, as a result of the cities' large differences in characteristics and foundations.

C40 Cities is a network of nearly 100 world-leading cities, consisting mostly of megacities like London, New York, and Mumbai, that aims to deliver urgent action on the climate crisis through city-to-city sharing of best practices. In addition to megacities, C40 has “innovator cities” like Oslo, intended to try out and develop solutions and best practices for replication in larger cities. Oslo can be argued to hold several advantages in taking action to reduce its GHG emissions, and currently leads the C40 CB Pilot. The city introduced its first CB in 2017, and

makes the claim that it plays a key role in decreasing its emissions. In contrast, Mumbai is located in the western coastal region of India, a particularly vulnerable area to the effects of climate change. Mumbai, being a part of the C40 CB Pilot, has experienced a political shift within the BMC government, shortly after the previous administration made the decision to join the Pilot. WRI, an external organization, has been assigned the task of preparing the implementation of the CB in Mumbai.

The C40 CB Pilot finished its first phase in December 2022, which sought to transfer knowledge on the CB approach for it to be upscaled and implemented in larger cities. It used Oslo's experiences and insights on climate budgeting as a foundation.



## 7 Results and discussion

The following sub-chapters will analyze and discuss the findings derived from the interviews and the literature. The chapter presents a diverse set of descriptive information and subjective viewpoints from our informants, to provide insights into distinct characteristics and common perceptions regarding the implementation of a CB and the facilitation of effective knowledge transfer. The theoretical framework and literature review presented in chapter 2 and 3 provide the analytical vantage point for our discussion. In each sub-chapter, we will address guiding objectives to pursue a structured and comprehensible presentation of our findings. This approach is undertaken as an exploratory method to analyze our data with the aim of identifying and consolidating subordinate findings that contribute to addressing our main research objective.

Our results indicate that the Pilot does not appear to have resulted in a probable implementation, and the process has currently stagnated. WRI continues to work on it to some extent, but both the climate budgeting work and their overall climate plan are not currently being implemented, due to a lack of prioritization under the BMC's current administration. A CB is a direct operationalisation of a city's CAP. Consequently, we cannot delve into how Mumbai's CB has been structured and how it aligns or contrasts with Oslo's model. Nonetheless, our findings provide indications of how WRI have interpreted and translated the information and how they envision operationalizing such a CB.

Due to stagnation, our findings will for the most part delve into the following aspects to examine how it has reached its current state and no further: Where it might have come to a halt; what factors led to the CB development being temporarily stalled; and how Oslo and C40 have sought to provide Mumbai with the best possible insight into climate budgeting for a successful knowledge transfer process.

The first part of our analysis gives a presentation of how the City of Oslo and the City of Mumbai are organized around climate action and climate budgeting, where we will subsequently discuss potential implications of the similarities and differences in their organizational structures. The second part of this chapter presents how the C40 Pilot has been conducted, and what considerations the informants believe should be made to ensure a feasible policy transfer process. The last part identifies key factors that may facilitate or hinder the implementation of a CB in Mumbai.

## 7.1 Organization and structure

The objective of this sub-chapter is to describe how the involved organizations structure their environmental and climate work, with an emphasis on the organization of climate budgeting, in addition to discussing potential implications of organizational similarities and differences in regard to the knowledge transfer process.

As emphasized by the literature (e.g. Røvik, 2016; Stone, 2017; Lee & van de Meene, 2012), it is often found more difficult to conduct “proper translations” the less resemblance there is in the organizational contexts of the recipient and source. More homogenous organizations are thereby argued to have more ease in executing appropriate transfers of knowledge. Therefore, it is important to understand the comparative organizational structures of the climate work in the involved organizations.

Having a robust and effective organizational structure for a city's climate actions, along with a clear and actionable CAP, are considered important elements to have in place in order to successfully implement a CB. Thus, we will not delve deeply into describing the general characteristics of how the cities are organized as a whole. This information is readily accessible to the public and is not particularly relevant to our overall research question. Instead, our primary emphasis will be on highlighting organizational traits that are associated with effective climate governance.

### 7.1.1 The cities' organization and structure on climate action

As mentioned at the outset of this sub-chapter, one of its guiding objectives is to describe how the involved organizations structure their environmental and climate work. A number of informants underline how climate work should be worked on across departments. A cross-sectoral approach is necessary to ensure responsibility across all departments. The informants contend that no departments can be “freed” from taking climate considerations into account, as it is an all-encompassing issue, and must be dealt with sector-wide, as emphasized by Oseland (2019, p. 347). An informant from C40 describes the importance of facilitating for cross-sectoral climate work in the following manner:

Climate work has often been conducted in silos, similar to many other types of work. However, in order to mainstream climate action, it is necessary to integrate it across the organization, across sectors, and ensure that everyone feels ownership. This needs to be ingrained in the organization's backbone (C40 official).

Here, we observe that the C40 informant's understanding of the significance of overcoming institutional barriers aligns with Oseland's (2019) contribution to the literature. The informant asserts that in order to integrate climate action effectively, it is crucial to break down institutional silos and foster a sense of ownership among all departments and employees in the city's climate-related efforts. A City of Oslo official supports the position of both the C40 official and Oseland by explaining how the city facilitates for effective communication across sectors:

There are climate-related discussions happening both within and across departments and levels, where the Climate Agency serves as a knowledge hub. Additionally, the Department of Environment and Transport (DET) actively involves itself in the activities of other departments. Compared to earlier, they now have more frequent communication with the Department of Business Development and Public Ownership, which oversees our construction companies. This includes Oslo Bygg—which owns all the buildings in Oslo, comprising millions of square meters. Climate measures are also being implemented in these buildings, such as using emission-free construction machinery. However, these efforts do not happen automatically; they are the result of extensive discussions, collaborations with other departments, and engagement with the industry (City of Oslo, official).

The example provided by the City of Oslo official highlights the presence of regular communication between departments and emphasizes the collaborative efforts of multiple stakeholders. It also indicates that a structured framework has been established to promote smooth communication and effective implementation of climate-related measures. Such an understanding is also reflected in Mumbai. A former high-ranking official in the Government of Maharashtra stated their opinion regarding how environmental departments should work:

We believe that an environmental department shouldn't work in silos. It should work in sync with the agriculture department, the urban development, the rural development, the industries, the energy department... Because everything is interconnected—we've got to decarbonize all these sectors (former Government of Maharashtra official).

As noted in Marchiori & Franco (2020, p. 131), establishing trust among members and creating shared understandings are important for effective sharing of knowledge in networks. The findings from the interviews show that both Mumbai and Oslo share an understanding on

the importance of collaboration across sectors in order to coordinate their respective climate work. However, the interviews reveal a clear divergence between the two cities in terms of whether such formal structures and practices are fully established. Oslo has an environment department (DET) that formally owns the climate work in the city government. In addition, as of 2016, the Climate Agency has been in place as an underlying agency of DET.

It is specifically the Climate Agency that serves as the major knowledge channel. All the departments have broad access to the Climate Agency. The Climate Agency may also occasionally be perceived as somewhat pushy. After all, they own the climate goals of their departments, so they have to report on the progress of their work as well (City of Oslo official).

A similar understanding is stated by a WRI employee:

The climate cell has been envisioned and thought of as not only a body that is going to help implement the CAP, but act as a coordinating agency and well-capacitated agency that can tell the departments how to implement certain actions (WRI employee).

Innes and Booher (2010, as cited in Oseland, 2019, p. 347) point to how divisions within the governmental structure are poorly set up to deal with climate change challenges. To solve this problem, an official from the City of Oslo describes that the Climate Agency in Oslo serves as a central knowledge hub, as well as a body coordinating climate action across departments. The agency boasts a wide range of climate expertise, which is readily available to all departments when planning and executing climate-related initiatives. While a comparable agency does not currently exist in Mumbai, the WRI employee explains that the envisioned climate cell in Mumbai aims to operate in a similar capacity as the Climate Agency in Oslo. Furthermore, several informants point out that a climate cell should be empowered to follow up on, and sometimes push the departments in the municipality when it comes to climate action.

They have a pretty good overview of who [the departments] can do what. The departments are autonomous in reporting [...] There is also a lot of nudging happening to get different departments to take on greater responsibility. But they are not free to say: "No, we don't want to do this." Some things come as mandates (City of Oslo official).

There is no central nodal agency or body that is legally empowered to tell the transport department “Hey, why aren't you following your targets?”. You need that body to have the right to oversee whether the BMC departments are following up on its planned measures (climate correspondent, Mumbai).

The two quotes above demonstrate an alignment between the expectations of the climate correspondent in Mumbai on how the climate cell ought to operate and the actual functioning of the Climate Agency in Oslo. According to the City of Oslo official, the Climate Agency is tasked with pushing various departments to prioritize climate-related actions. It is worth noting that the departments are not free to dismiss climate measures that are mandated by the agency.

The WRI informant highlights that the climate cell in Mumbai is also envisioned to help implement the MCAP. The MCAP provides a roadmap for climate and environmental efforts with the goal of achieving net-zero emissions by 2050. The informant also identifies a challenge faced by the city corporation in reaching the GHG emissions targets of Mumbai, specifically relating to the significant number of informal settlements in the city. Overcoming this hurdle and effectively engaging with these communities poses a challenge for the city corporation.

The city corporation in Mumbai requires a more expansive ecosystem to effectively address the challenges at hand. We acknowledged the need for this ecosystem because when civil society organizations or experts offer their support and insights, the corporation has sometimes displayed a defensive stance. This defensiveness creates difficulties for organizations working in these areas to provide the necessary assistance and collaborate effectively. But then again, civil society organizations and a lot of the experts don't fully understand the compulsions of the city corporation. So the idea is to create that ecosystem for a slightly healthier dialogue. And to have that two-way-street of communication. Because there is no way that the corporation will be able to implement the whole CAP without the support of this ecosystem. Because they can't reach a lot of these informal communities, as they are not even notified communities on paper (WRI employee).

The quote from the WRI employee highlights a unique challenge for the implementation and coordination of climate action in Mumbai. The informant emphasizes that the BMC relies on various civil society organizations to effectively implement the MCAP, given the presence of

informal communities in Mumbai. In contrast, Oslo does not face the same challenge as it does not have such informal communities, enabling the city to independently implement a climate strategy that encompasses its entire population.

Oslo introduced its own CAP (Klima- og energistrategi for Oslo) in 2016, which was later revised in 2020 (Klimastrategi 2030). This plan sets an interim target of reducing GHG emissions by 95% by 2030 compared to 1990 levels. As shown in the literature, Oseland (2019) claims that climate action planning holds promise as a means to overcome institutional barriers and organizational silos, facilitating effective climate governance for cities and municipalities. Both Oslo and Mumbai recognize the importance of establishing a strategy to address the challenges posed by climate change, as is evident in their respective CAPs. Interviews with officials from the City of Oslo and WRI employees reveal that the process of climate action planning and the establishment of a climate cell follow a similar trajectory. The only distinction lies in Oslo's five-year head start, enabling them to advance their climate work through comprehensive climate action planning.

We didn't even have a climate agency when it [the CAP] was adopted (City of Oslo official).

According to the City of Oslo official, the Climate Agency was not in existence when Oslo's CAP was launched in 2016. In fact, it was through the development and adoption of the CAP that the idea and establishment of the Climate Agency was realized. This process mirrors the approach taken in Mumbai as well, where the CAP serves as the foundation for the envisioned climate cell. The C40 network has also taken use of its previous work and cooperation with member cities. According to a C40 official, having an operationalized CAP sets an important precondition for developing a CB:

C40 has assisted a lot of cities in establishing CAPs. There is a framework for creating such a CAP, and that framework sets the foundation for developing a CB. This is where you have your GHG inventory, you have your goals, and your strategic priorities (C40 official).

In India's political landscape, some of the informants highlight an additional aspect expanding on the emphasis on cross-sectoral integration. According to one C40 official, the municipalities rely on their interactions with sub-national and state entities to effectively implement specific policies.

If a city wants to allocate money for renewable energy, that requires three or four departments to come together to make that decision on policy. So, it can't just be one department saying, "okay, let's do it". A lot of work in India is cross-departmental, not only at the city level, but it also requires vertical integration between the city and the state. I don't think the cities in India are independently capable of implementing the actions that come out. So, they require a lot of state buy-in. And we've seen this in all our plans, that there is a lot of interaction that we have between the city and the state (C40 official).

Mumbai is a rich municipal corporation. They have a huge amount of money. The state government doesn't provide them with a single rupee, and the central government also doesn't allocate any funds to them. They are entirely self-reliant and independent (Government of Maharashtra official).

The two quotes reveal a contrast between a perceived crucial element highlighted by the C40 official for effective policy implementation, and the actual interaction between Maharashtra and Mumbai, as described by the Maharashtra Government official. While the C40 official emphasizes the need for cross-departmental collaboration and vertical integration between the city and the state, the Maharashtra Government official portrays Mumbai as being financially independent. This highlights a disparity between the requirements for successful action argued by the C40 official and the existing situation in Maharashtra. As Stone contends (2017, p. 8), not neglecting key stakeholders is an important condition for whether transferred policies are adopted or excluded. The informants state how the political power distribution in India is different from that in Oslo. As several studies indicate, facilitating appropriate transfers and learning is more difficult the less similarities there are between the organizational contexts (e.g. Røvik, 2016; Lee & van de Meene, 2012). Oslo inhibits a combination of both municipal and county functions and responsibilities, thus there is no need for an interplay between the sub-national and the municipality, differing from the situation in Mumbai.

This [the CB implementation in Oslo] happened while we had a conservative national government, so it couldn't come from the national level in any way. I don't know how it plays out in India. In any case, it wasn't a necessary precondition for something to happen here. It's often the case that cities develop faster than national progress (external consultant, Oslo).

The consultant's observation implies that the City of Oslo possesses a level of autonomy that surpasses that of the City of Mumbai. This highlights the difference in the extent of independence enjoyed by Oslo, emphasizing a greater degree of self-governance compared to Mumbai. In term, this is a factor that can make implementation of CB's and similar implementation of climate policies more complicated and time consuming for Mumbai. Furthermore, the consultant points out another potential barrier that relates to the structure of city departments:

Different departments or agencies often have their own areas of responsibility that do not overlap. However, when it comes to climate measures, it reaches a point where they must collaborate. In such cases, multiple elements within the municipality need to be involved. This goes beyond traditional practices, making it crucial to break down silos and establish cross-functional collaboration groups focused on climate issues. These groups can address conflicts of interest and acknowledge that certain goals may contradict each other. Some may advocate for minimal charging infrastructure in the city, while others prioritize creating car-free streets and enhancing urban spaces for pedestrians. These divergent climate goals necessitate discussions within cross-functional teams to address conflicts and find solutions (external consultant, Oslo).

The quote from the consultant in Oslo highlights their recognition of the importance of breaking down silos and promoting cross-sectoral collaboration, which aligns with the understanding expressed by several other informants. However, the climate correspondent in Mumbai points out a characteristic of the departmental structure in Mumbai that could potentially hinder the practical implementation of the conflict resolution approach proposed by the consultant in Oslo.

The conflict arises when the same individual holds positions such as Minister of Environment and Minister of Tourism. Similarly, the previous Minister of Forests also held the portfolio of Minister of Urban Development. This distribution of portfolios creates a situation where government agencies responsible for functions that may contradict development interests are under the control of the same individual. For instance, as the Minister of Urban Development and Forests, it becomes easier to push through urban development contracts without encountering objections from the Forest Department, which would have otherwise raised concerns. This scenario blurs the line



between watchdogs and project implementers, as they are essentially the same entity (climate correspondent, Mumbai).

The climate correspondent raises a critical point regarding the distribution of departmental portfolios in Mumbai. The informant highlights the concern that a single individual may hold positions in two departments with potentially conflicting interests. This arrangement can render cross-sectoral discussions ineffective, as the person in charge can easily pass legislation that would have otherwise faced objections from the other department.

### **7.1.2 Organization of the CBs**

The guiding objective of this section is to describe the organizational framework of the CB in both Mumbai and Oslo. The section seeks to display the fundamental characteristics of the proposed design of the CB in Mumbai, and draw comparisons to the existing practices in Oslo. Thus, looking at the interconnections between the CB and the financial department within each city is of significant importance.

As of the time this thesis is written, the BMC does not have a process or strategy in place for implementing an operationalized CB in the near future. This follows as a consequence of how the MCAP is not put to use by the current government of the BMC. Climate budgeting is more or less a direct operationalisation of a city's CAP, and since the MCAP is not prioritized by the current BMC government, this sub-chapter will only be able to provide indications of how the City of Mumbai's CB would look if it is to be implemented in full at a later time. Oslo's CB is presented in section 6.3.2, and therefore this sub-chapter will primarily outline how our informants from WRI depict what Mumbai's CB would look like and which principles they plan to adopt.

As mentioned, Oseland (2019) emphasizes the potential impact of dismantling institutional silos, especially in the context of effectively implementing a tool like a CB. Similarly, a C40 official explains how a CB can be a way for a municipality to structure the delivery of climate measures across departments, linking climate goals into all decision-making processes:

The most important aspect is to integrate climate goals and considerations into all decision-making processes, especially within the city's budget process. In essence, the climate goals or climate strategy of the city becomes the guiding principles for all decisions made. You establish a governance system closely linked to the financial budget process. All governing documents, formal and informal processes are guided

by climate goals and considerations. Through the budget process, you investigate, develop, propose, adopt, implement, monitor and report on the delivery of climate measures. It becomes a transparent system to track what is being done and the progress made towards climate goals on an annual basis. This is a recurring process that continues year after year, highlighting where the responsibility lies (C40 official).

The C40 official describes what they perceive as the most important principles for a CB that needs to be present for it to have its intended purpose. According to the informant, a CB is a tool that is meant to distribute the responsibility of delivering climate measures to the different departments through connecting them with the financial budget process. The recognition of these principles is shared by a City of Oslo official, and are also exemplified by how the CB works in Oslo.

Having a department for finance take ownership of the CB is imperative. The integration of the CB into the financial budget process is crucial because every city and governance system operates based on budgets. Failing to include the CB in the budget jeopardizes progress in climate work. By enforcing organizations to report on and adhere to the budget circulars and reporting guidelines, the CB becomes ingrained in their work. It is worth noting that not all department leaders are equally passionate about climate work, as they have diverse responsibilities to fulfill, not exclusively focused on achieving Oslo's climate goals for 2030 (City of Oslo official).

The advantage of a CB is its integration into the regular budgeting process, ensuring its survival during political shifts. The system endures because it is integrated into ordinary processes and receives annual follow-up (C40 official).

The City of Oslo official highlights the importance of integrating the CB into the financial budget as a means of fostering cross-sectoral climate work and allocating implementation responsibilities to various departments within the city. The C40 official also points out that integrating a CB into the ordinary budgetary process is a means to ensure that the governance tool will be maintained regardless of which party is in charge. This aligns with Oseland's (2019) perspective that Climate Policy Integration (CPI) can effectively mainstream climate action. As emphasized by the informant, department leaders are tasked with multiple responsibilities, and climate action may not always be their top priority. By linking the CB to the financial budget, it ensures that climate measures receive the same level of attention as

other budgetary obligations. To ensure that the CB is followed up on, the ownership of the CB lies with the Vice Mayor for Finance in Oslo.

A CB needs to be anchored all the way up to the political top level, which also means anchoring it at the administrative level. The finance department should have ownership of the CB rather than assigning it to a climate-specific department, but also have them assist the work. In Norway, some cities have initially assigned all climate budgeting work to a climate-specific department, often an environmental unit that works on many other things as well. But then they have to integrate everything they do with a budget process. Then, as the finance department hasn't been very involved in climate work, we've seen conflicts arise. So, having a finance director formally own the CB and be responsible for integrating it into the rest of the budget process—I think that's crucial. It's equally relevant for Mumbai, regardless of the type of budget process they actually have (external consultant, Oslo).

The external consultant points out that assigning all the climate budgeting work to an environmental unit may cause conflicts with the financial department in a city. According to a C40 official, the current plan for Mumbai's city corporation is for the equivalent Vice Mayor for Finance in the BMC to take ownership of the CB. Ownership at the political top level is argued to be crucial for facilitating policy learning (Lee & van de Meene, 2012, p. 207). However, the process of determining initial ownership has not been finalized yet.

We are still trying to find ownership of that [the CB]. The Commissioner of the City and the Additional Municipal Commissioner own this work right now [...] there is no direct ownership, because the government changed, but the Municipal Commissioner is the one who's been leading this effort [...] I think it's really important that there should be a champion. And I think the Commissioner is the right champion for this, because they work on the budgets and lead that. But this requires a lot of cross departmental coordination. So it can't be just one department leading, because I think looking at things from a climate lens has to be an ownership of cross-departments, Because responsibilities are spread across departments as well (C40 official).

Stone (2017, p. 7) also emphasizes the importance of including key stakeholders in knowledge transfer processes. According to the C40 official, the transition of government in Mumbai has resulted in a lack of political ownership for the time being, suggesting how key actors are currently absent from the policy transfer process. However, the informant suggests

that the Commissioner in Mumbai will assume ownership of the CB, as the Commissioner in Mumbai holds similar budgetary responsibilities to those of the Vice Mayor for Finance in Oslo. This alignment signifies the Commissioner's role as the key figure responsible for overseeing the CB initiative. Furthermore, the informant points out that although the Commissioner will own the work, cross-departmental responsibilities for carrying out the climate measures outlined in the projected CB. This aligns with the structure of work currently being undertaken in Oslo.

Just because something is formally adopted as a governance system, it is not automatically implemented in all the different departments of the municipality. A significant part of the job also involves informal dialogues that take place between the City Council departments within the City Hall and down to the agencies. Particularly in the case of the Department of Environment and Transportation, they sometimes go beyond their mandate and communicate with agencies that are not under their jurisdiction. And they are governed by what is referred to as the "line," right? The informal dialogue we have with them is equally important, even though you won't find it documented in the CB. It's not a secret; it's just not written anywhere. It would be strange if we had chosen a governance system that worked perfectly only through allocation letters, framework letters, budget documents, and so on. Nothing works that way in a large organization (City of Oslo official).

According to the City of Oslo official, the successful implementation of the CB work relies heavily on informal dialogues among various departments. These dialogues play a crucial role in fostering departmental responsibilities and enhancing understanding of the climate measures that are budget fixed. Effective communication and collaboration with the DET and the Climate Agency are argued to be key factors in this process, going beyond the confines of the budget document alone. By engaging in these ongoing dialogues, a comprehensive understanding of the climate initiatives can be achieved, ensuring a more integrated and effective governance system.

### **7.1.3 Organizational capacity**

Along with having informal and formal processes in place, several informants draw attention to an organization's capacity and availability of data, tools and resources in order to operationalize a CB. The informants especially point out that there are issues within the BMC when it comes to having the capacity and expertise needed to take the work with the CB

forward. Subsequently, WRI has been engaged by BMC to prepare the work to cope with the capacity issue in the organization.

What's lacking right now, and what we would like to build and work on is firstly capacity. There is a very strong commitment to work on this [expanding internal capacity] from the corporation side. The WRI has been leading this effort and we've been able to flesh out a way forward (WRI employee).

They [BMC] don't have the capacity. There's not a team sitting and saying where the climate is at. There are people who are doing multiple jobs at the same time. They're 300% busy delivering things (C40 official).

The quotes from the informants demonstrate that the BMC is currently facing an excessive workload, leading to the involvement of WRI to alleviate the load. It can be argued that the situation within the BMC reflects a lack of determination and prioritization to handle this work. Still, the WRI employee argues that there is a willingness from the corporation's side to address the issue.

The corporation [BMC] doesn't have specialized capacity to work on for example sustainable mobility. There are no transportation planners, no landscape planners, and no development social scientists who can help the BMC take the CAP to vulnerable communities. The corporation is currently made up of close to 3000 engineers, with almost no specific capacity on environmental issues or climate issues or urban planners. In fact a lot of actions that we suggested in the plan were that we needed that planning capacity to be brought in [to the BMC] (WRI employee).

The statement from the WRI employee sheds light on the city's limited expertise in the environmental field, which poses challenges to the effective implementation of proposed measures in their CAP. Additionally, the WRI informant argues for the need to establish planning capacity within the BMC, possibly through the creation of a climate cell. Thus, the WRI argues for a professionalization of the BMC to enhance its climate related capacities. This can be viewed as an example of normative isomorphism (e.g. Eriksson-Zetterquist et al., 2014, p. 254), where pressures from other cities and C40 have influenced the city's pursuit of greater uniformity towards prevailing standards and norms of the environmental field. Several informants emphasize the importance of cities being self-reliant in terms of expertise and organizational capacity to further develop their CAPs and CBs.

We have seen how cities with less capacity, knowledge, and so on, have slightly larger challenges in implementing this than [...] [those] with abundant resources and lower budget restrictions, like Oslo has. They are in a privileged situation (C40 official).

Effective implementation of climate policies requires technical expertise and capacity. Mumbai will need to ensure that it has the necessary technical expertise and human resources to implement the policies recommended by C40 (climate researcher, India).

The BMC didn't have, and still lacks the capacity to take this work forward. So this is our effort to help them build their capacity and parallelly work on it. So it's a short-term and long-term process where in the short-term we don't want to stop the work because they lack the capacity, but at the same time in the long term we want to work towards building their capacity and make them self-sufficient to undertake all these things (WRI employee).

The climate researcher emphasizes the need for Mumbai to allocate time and resources towards training and enhancing the technical capabilities of their employees. Likewise, a WRI employee highlights their plans for both short-term and long-term capacity building within the BMC. The objective is for the WRI to lay a robust foundation for the CB work, enabling the BMC to eventually take over the responsibility once the organization has matured and gained the necessary capacity to sustain the efforts initiated by the WRI. Similarly, a City of Oslo official explains that the situation looked more or less the same when Oslo first started working on their CB.

When we were preparing our first CB, we really didn't know what we were doing. Neither did a lot of people at Rambøll [an external consulting company assisting with technical expertise], but we could rely on their expertise in environmental accounting. Our current CB looks very different now compared to back then. We don't use external resources anymore, [because] we have built up a relatively large CB team within the municipality. This is ongoing work, so why shouldn't the municipality build up that expertise itself? If the CB is going to function in the sense of raising awareness about the climate and bringing about real change in all departments, you need to build up the professional environment [internally] to support those departments. They don't have the capacity to do it themselves (City of Oslo official).

The City of Oslo official draws parallels between Oslo and Mumbai in their preparations for the CB implementation. Similar to Mumbai, Oslo initially sought external expertise to assist in designing their CB. However, Oslo gradually shifted its focus towards developing internal capabilities through the establishment of the Climate Agency. This example may suggest that Mumbai is heading in the same direction by aiming to make the BMC self-reliant in terms of climate expertise.

While capacity and expertise play a vital role in establishing an organizational structure capable of implementing a CB, it is deemed essential to recognize the significance of available data and tools, as highlighted by a City of Oslo official.

You have to start with what you have data on, that's something we learned quite quickly. So if you have good data, and that's the advice we also give to Mumbai [...] start with what you have data on, and then expand instead of trying to create a complete budget right away (City of Oslo official).

The informant contends that recognizing what data and tools you have available, and to not take on more than you can take, is crucial for not neglecting essential elements which climate budgeting is dependent on in its original context. As Dolowitz & Marsh (2000, as cited in Stone, 2017, p. 5) argues, “policy failure” is more likely if such neglects of essential elements take place. Additionally, the interviews with the informants show that there is a clear difference in the availability of data in Mumbai and Oslo.

It is challenging for some cities. I believe they invest enormous resources in data collection and processing. So, the dream for Mumbai would be to have a standardized GHG inventory at the national level. I think that is a long way off in India, at least for now. Oslo, on the other hand, is far ahead as they receive a processed GHG inventory from the national level, giving them a significant advantage (external consultant, Oslo).

There are data challenges faced by cities like Mumbai. In some cases, they lack sufficient data. When conducting our GHG inventory, the data is often scattered across various departments. Therefore, comprehending emissions related to mobility for example, requires multiple agencies to share data. The data is often disaggregated and, at times, unavailable. (C40 official).

While Oslo receives a complete GHG inventory from the national level, Mumbai needs to aggregate data spread across different departments. The C40 informant states that the scattered nature of the data, and in some instances the unavailability of data, makes it challenging for Mumbai to gather a comprehensive GHG inventory. Two external informants further underline this issue, and argue that there exists clear challenges on how one should collect sufficient data in an Indian context and in Mumbai in particular.

Some critics have argued that the MCAP's targets may be too ambitious or unrealistic, given the current state of infrastructure and resources in Mumbai (climate researcher, India).

In India, we have a poor history and track record of collecting, managing, and interpreting data for the CAP (climate correspondent, Mumbai).

Still, informants from WRI show a rather clear understanding of how one should restrict the CB's system boundary to what you have data and resources to support.

Our system boundary has been limited to the municipal corporation [BMC] and its departments. Initially, our focus is on mobilizing all the departments within the corporation, as the municipal budget is specifically allocated to departments operating within the city corporation's defined jurisdiction (WRI employee).

#### **7.1.4 Sub-conclusion**

This sub-chapter has presented the main characteristics, similarities, and differences of the organizational structures pertaining to climate work and climate budgeting in Mumbai and Oslo. As mentioned earlier in this sub-chapter, existing literature (e.g., Røvik, 2016; Stone, 2017; Lee & van de Meene, 2012) suggests that the greater the organizational homogeneity, the more seamless the transfer of policy tools tends to be. Røvik (2016) argues that the extent of resemblance or divergence between the recipient (Mumbai) and the source (Oslo) is a crucial factor in determining the suitable translation rules for knowledge transfers. Findings from the interviews indicate the presence of certain shared characteristics between the two organizations. However, the informants also highlight significant differences that might pose challenges to the effective implementation of a CB in Mumbai.

A notable similarity between Oslo and Mumbai is their similar trajectory in adopting a CAP, establishing a climate cell, and preparing for the implementation of their CBs. Adopting a CAP is crucial for overcoming institutional barriers in climate action, as noted by Oseland



(2019). Oslo initiated its CAP in 2016, followed by the establishment of its Climate Agency and the implementation of its CB in 2017. Similarly, Mumbai launched its CAP in 2021, outlining its climate action roadmap until 2050, including the planned establishment of a climate cell and a subsequent CB implementation. These observations suggest that Mumbai shares processual similarity with Oslo in the processes leading up to developing a CB.

The informants suggest that BMC is committed to expanding their climate-related capacities. Currently, the bureaucrats in Mumbai are found to be overworked, and deficient in internal environmental planning expertise. Participation in the Pilot and C40 is found to have led WRI to pursue a professionalization of the BMC to enhance its self-sufficiency. This can be viewed as an example of normative isomorphism (e.g. Eriksson-Zetterquist et al., 2014, p. 254), where pressures from other cities and C40 have influenced Mumbai to pursue greater uniformity towards prevailing standards and norms of its organizational field. It is suggested that Mumbai will need to become self-reliant in terms of expertise and organizational capacity to effectively implement their CAP and CB. Currently, this expertise only lies within WRI, an external organization weaving no decision-making power over the BMC. Following the lack of expertise and capacity, the quality of Mumbai's GHG inventory is highlighted by several informants. While Oslo receives a GHG inventory from the national level, the BMC struggles to aggregate data from its departments or occasionally lacks access to data altogether. However, the interview with WRI indicates that they have considered these challenges while preparing for Mumbai's CB. They plan to focus on areas where they have reliable data. As such, WRI demonstrates a keen awareness of key principles presented by experts on climate budgeting.

However, political turmoil has halted the MCAP and its associated plans in Mumbai, potentially impacting the future of the CB. Although the previous government in the BMC established the MCAP, the current administration has not followed up on it. This can be regarded as an instance of decoupling, as the formal organizational structure of the BMC appears decoupled from the measures actually being carried out. This displays a lack of coherence between the formal and the actual practices within the BMC, which shows the tension between the organization's presentation and intention on one side and the actual measures being taken on the other hand (e.g. Røvik, 2007, p. 30; Brunsson, 2017, p. 93). An informant from Oslo highlights that informal dialogue between departments can bridge the gap between formal and actual processes. Therefore, it is recommended to have a coordinating climate cell to operate between departments. However, the climate cell has yet to

be formed in Mumbai, and little progress has been made toward its establishment. Informants in Oslo emphasize the importance of the Climate Agency for structuring cross-departmental work and delegating responsibilities in carrying out climate measures outlined in the CB. In contrast, the BMC lacks a body that can provide direction, technical assistance, and serve as a knowledge hub for different departments. Without a climate cell in place, Mumbai risks delaying a CB implementation for an extended period.

Another contextual challenge is the absence of direct ownership of the climate budgeting work within the BMC due to the decoupling from the formal adoption of the MCAP. The plan is for the Municipal Commissioner to lead the work, as they possess the same budgetary obligations as the Vice Mayor for Finance in Oslo. This alignment with formal processes is considered crucial by several informants for anchoring the CB. Unfortunately, these plans have not been finalized by the BMC. As a result, the preparation work has been outsourced to the WRI, with no jurisdictional authority to directly influence BMC's actions. However, WRI once more demonstrates awareness and knowledge, as their preparations and suggestions align with recommendations from Oslo and C40.

Additionally, the interviews highlight a disparity between Oslo and Mumbai regarding the vertical integration of national, sub-national, and municipal levels. According to informants, Indian municipalities rely on state and sub-national buy-in to implement certain policies. Oslo inhibits a combination of both municipal and county functions, thus there is no need for an interplay between the sub-national and the municipality, differing from the situation in Mumbai.

In summary, the collected data suggests that there are factors that can both facilitate and hinder effective knowledge transfer between Oslo and Mumbai. Processual and framework similarities enable effective sharing of knowledge. However, political instability and the subsequent lack of willingness and ownership have halted the CB work in Mumbai. This has also delayed the establishment of the climate cell, where expertise on climate planning is supposed to be brought in to enhance BMC's climate planning capacity. This reveals a decoupling between the adopted roadmap provided by the MCAP and the actual work within the BMC at present.

## 7.2 Execution of the Pilot

The objective of this section is to explore and analyze how the C40 CB Pilot program has been structured and executed. Firstly, it will delve into the distinct roles held by each participating organization. Oslo serves as the source organization responsible for initiating the transfer process on climate budgeting. C40 Cities acts as a crucial third-party facilitator, assisting in the dissemination and coordination of the knowledge transfer. Meanwhile, Mumbai stands as the recipient organization, where the transferred knowledge and policy is meant to be adopted and implemented. Lastly, the sub-chapter will shed light on the means of communication and learning employed by the Pilot project. It presents strategies and tools utilized in the pursuit of an effective knowledge and policy transfer, as well as how the Pilot sought to help the involved actors navigate and comprehend the knowledge and technical jargon associated with climate budgeting.

### 7.2.1 The roles of C40, Oslo and Mumbai

Understanding the roles the involved organizations hold in the C40 CB Pilot program is of importance to grasp how the policy transfer process has been conducted, and accordingly what the implications of such an execution might be. As Røvik (2016, pp. 300-301) notes, both the features of the source organizations, in our case Oslo, and the recipient organization, Mumbai, are of significance for knowledge transfers. In addition, the Pilot is conducted through a TMN, C40 Cities, taking on a role as a facilitator that is actively involved in both preparing and executing the knowledge transfer.

A C40 representative articulates the organization's own perspective on the overall mission and activities of the C40 Cities network, as well as the criteria for membership, in the following manner:

So firstly, C40 is an organization. We don't legally bind our cities to anything. We have something that we call the Leadership Standards. And as members, we expect our cities to comply with those leadership standards every year because cities that are a part of our network are supposed to be cities that are leading climate action—that's why they're part of the network. So if they don't meet the requirements, their membership gets annulled. But we don't police the cities. We believe that the senior leadership lies in the cities, they're the driving force to make these decisions (C40 official).

The isomorphism phenomenon refers to how organizations strive for legitimacy by conforming to prevailing standards and practices within their respective fields (Eriksson-Zetterquist et al., 2014; DiMaggio & Powell, 2000). C40 has established formal standards and norms that they expect member cities to comply with. Not complying to the network's standards and norms is said to lead to a city's membership being revoked. C40 could be viewed as a prime example of isomorphism, as it represents a collective effort by cities to adopt and adhere to its standards and practices to demonstrate their commitment to addressing climate change, and bolster legitimacy. This can illustrate that C40 exerts soft power, and how cities can leverage their C40 membership to pursue enhanced legitimacy within their organizational fields.

We [C40] provide support. We provide guidance. We obviously want to learn from the cities, so if a city is doing something really great, let's say if Mumbai is able to implement the Pilot really well—then we would like other cities in India and the region to learn from Mumbai. So we want to be in touch with the city to support them, to help them, to guide them, but then to also learn from the city. It's a two-way street. We learn from the cities all the time, so that we can then create channels for peer-to-peer exchange between cities (C40 official).

The above-mentioned quote posits that C40 sees the Pilot as not only a way for the Pilot cities to try out if they can implement a CB effectively, but also to lay a foundation for other cities within similar regions to follow suit if it leads to the desired results. As such, it is clear that the Pilot program is not an isolated transfer process that is to be performed once—but rather as a long-term process with more and more cities tagging along. This is directly reflected in the fact that the Pilot is currently preparing for its second phase, with even more cities joining. An external consultant with prior experience in both internal and external capacities with Oslo's CB process, sees the role of C40 for the CB knowledge transfer as follows:

I believe C40 is important as: number one, a driver; second, as a translator of knowledge from the different cities; and thirdly, as a knowledge hub. It plays crucial roles in these areas. Additionally, it serves as inspiration for other cities. While the current pilot involves eleven cities, the ambition should be to extend its benefits to cities worldwide. Doing that is too big a task for individual cities to undertake alone, and so international cooperation is a necessity. C40 can serve as a suitable platform for such collaboration (external consultant, Oslo).

An informant from C40 states how the CB Pilot is structured internally in the organization, as well as how they have linked the City of Oslo to the project.

The [CB Pilot] project is placed within the Climate Finance, Knowledge & Partnerships department of the C40 organization. We are a small team of just a few individuals specifically working on the CB Pilot. Currently, there are two and a half positions dedicated to it. We also cooperate across teams within C40 to benefit from the internal knowledge that we have. The project itself has been organized from an office based in Oslo, in collaboration with an advisory team from the City of Oslo [...] There are technical advisors involved with the CB [of Oslo] from the Climate Agency and advisors working in the Department of Environment and Transport. We wanted Oslo to feel ownership of this initiative. It was important for us that it didn't feel like a burden or a project done in a silo “on the side” [of the City’s endeavors] (C40 official).

This demonstrates a close collaboration between C40 and Oslo, the lead city of the Pilot, highlighting that the Pilot draws heavily from the climate budgeting practices and structure implemented in the City of Oslo. The literature emphasizes how the more explicit the knowledge being transferred is, the easier it is to translate into a symbolic depiction for others to learn from. Explicit knowledge can be clearly expressed through language, written down, codified and effectively taught, often in the form of manuals or frameworks (Nonaka & Takeuchi, 1995; Martin & Salomon, 2003; Zander & Kogut, 1995, as cited in Røvik, 2016, p. 295). C40 undertook substantial efforts to transform knowledge and insights on climate budgeting into written and formalized materials. These materials played a crucial role in conveying the information to the pilot cities.

[...] in the pilot, due to a lack of written guidance materials, we had to produce and capture a significant amount of this knowledge and convey it to the cities. This placed Oslo in a position where they became a net contributor of knowledge content. We used this and invested a lot of time to create a shared understanding of what climate budgeting is and how it works (C40 official).

A consultant who previously worked on the preparations for the CB Pilot further describes the role C40 has taken to translate the knowledge from Oslo into information that is applicable for the Pilot Cities:

Maybe partly because it [developing a CB] is a journey that takes place in several stages, and since Oslo was so far ahead, it became a bit like that. They [the other Pilot cities] were on climate budgeting 101, and we [Oslo] were on climate budgeting PhD edition. But I believe that C40 did a pretty good job here. They tried to translate the knowledge from Oslo into a pragmatic level that could be applicable to others (external consultant, Oslo).

A WRI employee states how they perceive the involvement of C40 and Oslo in the Pilot, as well as their assessment of the means of learning employed in the process.

If the Pilot didn't happen, we probably would not be doing this exercise [preparing to implement a CB] [...] through the Pilot I felt like they've been able to put in place certain formats and checkpoints. Like, understanding what this is really about and how to go about this—that guidance has come from the Pilot, and of course from the City of Oslo. But beyond that, there have been times where I feel like we've been feeling a bit lost. You know... how are we going to cover all this ground, but realize that maybe we can break it into certain goals or milestones [...] we can go back to some of the webinars or some of the material. And then get back on track (WRI employee).

WRI acknowledges how they actively leverage the insights provided by the Pilot to inform their approach in developing a CB for Mumbai, with Oslo serving as the prime example. Still, the WRI conveys a skepticism towards the feasibility of a drag-and-drop transfer for Mumbai's particular context:

In most of the webinars, Oslo is the primary example. And it is most definitely very helpful to get learnings from Oslo. Also like the templates, Oslo's CB, how they've published it... So we've gone through all of that material. But of course, I think with that is the realization that not everything can be just copy-pasted. It will have to be sort of reworked and contextualized (WRI employees).

The informants from WRI seem to agree with the importance of translation and interpretation, as emphasized by for example Stone (2017) and Røvik (2016). As such, the WRI employees seem to agree with the notion that understanding knowledge transfer as a linear-process is misguided. Similarly, C40 officials note how they do not seek to force a specific methodology on the Pilot cities, but instead wants the cities to have at least a somewhat open approach.

We have kept it quite open for cities to choose their own approach. Whether they opt for a city-wide scope or focus on what they can control (C40 official).

I believe the underlying idea [of the C40 network] is for cities to inspire each other, and to not be an extra component that delays or pushes [processes], but to promote collaboration [between cities] to find effective solutions [...] (C40 official).

This point resonates with how WRI suggests that they do not seek to solely rely on C40 and Oslo's insights when developing a unique methodology and system boundary for Mumbai's CB:

They're [C40] not necessarily involved in figuring out the methodology, because we're doing that internally. But in helping us set those milestones and providing that framework to work with (WRI employee).

The way the different informants view the respective roles of their organizations indicate a clear notion of creating shared understandings, and that the informants from both C40, City of Oslo and WRI state no intention of conducting the knowledge transfer through a “copying mode of translation” (Røvik, 2016). The involved actors all contend that there are sets of important elements that should be included, but interpretations and alterations tailored towards the recipient context are clearly encouraged. This suggests that taking on a “modifying mode of translation” (ibid.) is viewed as more appropriate by the overall actors involved in the specific knowledge transfer process between the City of Oslo and the City of Mumbai.

### **7.2.2 Means of learning and communication**

As mentioned, the Pilot program concluded its first phase as of December 2022. In this section, the concrete methods and means that have been used in the knowledge transfer are presented. An informant from C40 describes how the Pilot has been conducted in general:

So C40 led this, right... With a team. They prepared and took them through systematic webinars [...] that then provided the cities with a framework of what they needed to do—for organizing or structuring a CB. So, they went through that process and then there were review meetings that happened with C40's CB team. Later there was a workshop that happened [...] in Oslo, I think it was around June or July [of 2022] [...] that brought together the different cities for a three-day session where they learned

from each other—working on the budget. We were doing an involved consultation with all of the Pilot cities (C40 official).

The City of Oslo played a large role in the webinars used in the pilot. When asked how the dissemination of knowledge was conducted in the Pilot from Oslo's side, a City of Oslo official said the following:

It [the Pilot] primarily consists of webinars, where Oslo has delivered a lot of presentations. These cover a wide range of topics, from how to create a CB, to how the process is done in Oslo, the key stakeholders involved, and both the formal and informal processes. They also include reporting on the CB and insights from various entities, including agencies that we have direct control over, as well as other entities where our control is not as extensive, such as Ruter [Oslo's public transportation authority] and Oslo Port Authority. There is also a distinction between self-cost agencies, such as the Water and Sewage Agency and the Waste Management and Recycling Agency, where we all pay fees for waste collection as well as water and sewage services. They operate differently, and have also been part of the Pilot project, discussing the benefits they derive from the CB and the challenges they face. Oslo has provided virtually all the substantive content for the pilot, including contributions from individuals seconded from the municipality to C40 (City of Oslo official).

This shows how the City of Oslo has taken on large chunks of the responsibility, and used a significant amount of time and resources for providing the pilot cities with information that covers not only the basics. The City of Oslo official states that C40 has brought in individuals into its organization with previous experience and knowledge on the CB process in Oslo, who are now employed by C40 for the CB pilot project.

In addition to being the facilitator and in charge of preparing the webinars and the in-person workshop, C40 also has taken use of and further developed their "C40 Knowledge Hub" for the city corporations to use. Informants from C40 describe the purpose of their Knowledge Hub:

It is basically where we put in a lot of information for the cities, for them to learn and get guidance, and provide a collection of different information. We have different networks that the cities can participate in that is basically bringing together cities for a certain topic. So cities can join networks, they can join forums. And we do a lot of



peer to peer exchange and study tours, develop papers, and technical knowledge (C40 official).

We have a public knowledge hub platform that houses all the resources we develop together with the pilot cities. It serves as a bulletin board for discussions [between the cities] (C40 official).

Our findings suggest that despite C40 taking a very active role, it is evident through the various processes the Pilot entails that they do not impose significant constraints or demands on how the implementation and knowledge sharing should be carried out between the pilot cities. A WhatsApp group was created to allow for informal communication where the cities could share their experiences, which further supports an open approach.

The pilot cities formed a WhatsApp group to engage with each other, like peer-to-peer city learning. I do believe from my counterparts in Mumbai that it has been very helpful [...] they [the Pilot cities] really got a lot of information from each other as well (C40 official).

There [in the WhatsApp group] they share information very informally. It has been very successful (C40 official).

When asked about concrete examples of how the communication between the cities is organized, the open and non-intrusive approach of C40 team is further illustrated:

So, sometimes it's even beyond me. Like... I don't know. And that's a good thing, right [...] I think the WhatsApp group [...] helped the cities connect with each other and I think they took that very positively, but I'll be very honest: We don't want to micromanage that interaction (C40 official).

All eleven Pilot cities were members of this WhatsApp group, and consisted of the technical teams from the different cities, and not the mayors.

[...] So, it wasn't the mayors, it was the technical teams. Which is always good, because then it makes it more "real", I think—the exchange. Because [...] then they can ask lots of questions. They don't have to be formal. So I always think that the exchange, peer-to-peer exchange at the technical level and operational level is always better (C40 official).

The frequency of communication between the cities and the methods used are further described by informants from the City of Oslo:

It may not be day-to-day, but at least it's every week, and at times several times a day [of contact] (City of Oslo official).

And then it's also possible to have one-on-one meetings. Even though the pilot involves eleven cities, it's not always that everyone meets. It's possible that [only] C40, Oslo, and Mumbai sit down together and have a three-hour session (City of Oslo official).

### 7.2.3 Speaking the same language

Several of our informants mention how they emphasize speaking the same language as an important condition for a fruitful knowledge transfer, to make sure one understands each other and is receptive to the information provided. An informant with hands-on experience on Oslo's CB that did research for the C40 CB Pilot says the following when giving recommendations for how to ensure understanding between the actors involved in the transfer process:

One way to make the process easier is to establish connections across the hierarchy in Oslo and Mumbai. This means that the mayor communicates with the equivalent political position in Mumbai, an economic director speaks with an economic director, a climate expert engages with a climate expert—as they will understand many of the issues the other party faces when establishing a CB in Mumbai. Having a cross-network buddy system would be beneficial. It doesn't help for grassroots climate advocates in a climate agency to convince a political leader in Mumbai; they are not on the same level (external consultant, Oslo).

Such an approach to how communication should be facilitated might help establish shared understandings, and find common ground. As stated by Lee & van de Meene (2012, p. 206), speaking each other's language is an important attribute to facilitate policy learning. Several informants mention instances of where there have been difficulties in making sure the actors have the same understanding, and that they speak each other's language.

We had a representative from the finance department in a city who said: "What is the actual difference between mitigation and adaptation?" That was quite interesting. So I think maybe a takeaway from the Pilot would be to create a course for those working

in finance... [...] [and] for those who do not work [specifically] on climate and environment (C40 official).

One situation I remember we often discussed was whether the CB should focus on the climate impact of the budget provisions, which it does not do in Oslo. In other words, it was about whether you should calculate the climate effects of all your *budget items* versus calculating the climate effects of all your *climate measures*. [...] in Oslo it's the latter [that is calculated], but many other cities had the impression that the CB was primarily about their entire budget. That's also cool, but it's not what the CB meant in a Norwegian context. So they were a bit lost in translation (external consultant, Oslo).

This goes to show that setting the foundation for learning in policy transfers is not always an easy task. Having an understanding of the technical jargon on climate work is unlikely to be present across all departments of city corporations. However, a C40 official states the reasoning for why the city network, from their experience, contends and believes that knowledge sharing and transfers between cities have great potential.

There are also contextual differences. So, sometimes what Oslo may decide as a priority or what may come very easily to Oslo, may not be as intuitive to Mumbai. But I think cities really understand each other, because they know how governance works. And I've also seen that there is a lot of understanding between cities, despite the variations, from the commonalities they bind (C40 official).

Such a contention points to an argument that since cities all have some similarities, on how governance works and some general functionings of city corporations, this leads to an easier path to learning from each other. The informant from C40 also argues that the cities themselves, and C40, have a good sense of the differences that exist between them.

I think most cities that we work with and C40 have a culture of respect for diversity inclusion, in general [...] And when we work on exchanges like that [e.g. the Pilot], we ensure that there is translation. We are there to support. So we kind of help in tackling some of these issues as well (C40 official).

Studies have found that the most effective inter-organizational networks are often explicit and frank about the differences that exist between members, in terms of objectives, ideologies, and interests (Hartley & Bennington, 2006, p. 105). To what extent this is the case in the C40

network is hard to determine definitively, but the statement made by the informant allows us to assume that a certain degree of awareness is present.

Another example of the informants' emphasis on creating a shared language, and ensuring that the various parties in the knowledge transfer understand what the knowledge entails, is given by the external consultant from Oslo:

It takes time to actually get to know each other. To build trust. To learn to speak each other's language and understand the challenges others face and the goals they have in their organization, in relation to the goals you have in yours. And, how sometimes they align and sometimes they go directly against each other. I believe time is also an important factor, one must spend time together (external consultant, Oslo).

This points to two different arguments. One is that the member cities of C40 are argued to have a culture of respect and understanding of contextual differences. The second is that C40 explicitly states that they ensure “translation”, meaning that they try to make knowledge understandable for the different actors involved from different cities. Yet, when seen in contrast to the occurrences of misunderstandings and being “lost in translation”, it becomes clear that such translation is not an easy process, which indicates that “drag-and-drop” transfers might be unfruitful. Such an argument resonates with the notion that valuable insights into how a policy develops in new contexts are provided by occurrences of unintended consequences and misinterpretations of information, as they are integral parts of “the continuous metamorphoses” that policies undergo in a transfer process (Stone, 2017, p. 10).

Informants from WRI also note that making sure one understands each party, and is able to speak each other's language, is not only something that matters between the overall actors involved. It is also the case internally, for those on the ground seeking to educate city officials that do not necessarily work specifically with climate or environmental issues.

We were able to get the finance department to share climate budgeting instructions and a template with eleven relevant departments within the BMC. And we kind of received good responses from three departments. And a not very complete response from one department. So we got three and a half departments to respond [...] So you know... It's also working with them to understand that we get their language right, and thereby get

their templates right—to make it easier for departments to respond back (WRI employees).

#### **7.2.4 Sub-conclusion**

In conclusion, this section has shed light on several key aspects of the knowledge transfer process, particularly focusing on the execution of the CB Pilot. It is evident that Oslo, as the lead city, serves as a central figure in demonstrating an example of how to organize and implement a CB—as an exemplary model for other cities. Additionally, the facilitative role of C40 in translating and transforming knowledge from Oslo into various formats, in close collaboration with individuals from the City of Oslo, has played a large role in disseminating climate budgeting expertise.

The involvement of C40 and its established Leadership Standards may exemplify the isomorphism phenomenon, wherein member cities are required to conform to certain standards in their collective effort to address the issue of climate change. Conforming to these standards can be argued to serve as a means to enhance the cities' legitimacy in their respective organizational fields. The informants stress the importance of developing shared understandings, both between and within the organizations involved in the knowledge transfer. Making sure one speaks each other's language and understands the technical jargon related to environmental concerns is found crucial, regardless of which city departments or level in the hierarchy one is at. Moreover, creating connections at appropriate hierarchical levels, such as political leaders engaging with their counterparts, is presented as a helpful way to ensure one finds common ground and understands each other's challenges. As noted in the literature review, similarity is argued to breed connection and facilitate learning (McPherson et al., 2001, as cited in Lee & van de Meene, 2012, p. 207).

C40 officials state that the city network has a culture of inclusion and diversity among its member cities, and an awareness and understanding of differences between them. If one accepts this to be true (we make no claim as to whether this is the case or not), this aligns with characteristics observed in successful inter-organizational networks (e.g. Harley & Benington, 2006). Yet, despite their differences, informants from C40 and the City of Oslo contend that cities understand each other, as they share aspects of governance and general operational frameworks, which they believe sets a foundation for fruitful knowledge sharing and transfer. This, once more, can be related to the notion of how the more similar the organizational

contexts, the easier it will be to translate knowledge from the source to the recipient without missing important elements in the transfer process (Røvik, 2016).

The informants are consistent in arguing for a need to adapt and interpret the transferred knowledge to suit the recipient context, moving away from a "copy-and-paste" approach. Granting flexibility for recontextualization of the climate governance policy is seen as an important condition for an effective knowledge transfer. Still, while opening up for adaptation and interpretation, incorporating essential elements of the transferred policy is recognized as vital by the informants if the policy is to function as intended.

Furthermore, instances of misinterpretations and differing understandings of technical terms have been underlined by informants on several occasions, underscoring the complexities of translation. As Stone states (2017), this provides valuable insights into policy development in new contexts, as unintended outcomes and misinterpretations are integral parts of the “continuous metamorphoses” that a policy undergoes during a transfer process.

Overall, the sub-chapter presents the roles played by different actors in driving the knowledge transfer process, and portrays the importance the informants place on creating shared understandings and the need for adaptation and interpretation. The experiences of Oslo, C40, and WRI, as well as the external informants, demonstrate how context-specific adjustments are found significant to achieve an effective knowledge transfer for the policy to function properly in a new context.

## 7.3 Factors for policy learning and adoption

Our results show that the implementation process on climate budgeting in Mumbai has stagnated. Currently, the preparation phase remains active; however, executing a CB is not a prioritized agenda for the current government of the BMC. Therefore, the primary objective of this sub-chapter is to examine key factors that might have facilitated or hindered the implementation of a CB in Mumbai. Drawing from this analysis, we have identified understanding the local context and motivation, in addition to the political nature surrounding knowledge transfers as critical aspects to be further discussed.

In doing so, we seek to analyze and compare key considerations for an effective transfer process highlighted by the informants, in order to understand how they align and contrast with the existing literature and research. Literature identifies a multitude of factors that are pertinent to effective knowledge transfer, such as the significance of local elites. These studies have underscored the growing recognition of the need for local elites to assume leadership roles in policy transfer initiatives. Furthermore, it is argued that the degree of similarity between the source and recipient contexts positively influences the translatability of policies or knowledge. It has also been suggested that active information seeking from the recipient side and a thorough understanding and adaptation of the transferred knowledge to its new context are pivotal for effective policy transfer (Hartley & Benington, 2006; Lee & van de Meene, 2012; Stone, 2017; Røvik, 2016).

### 7.3.1 Local context and motivation for participation

As mentioned previously, Røvik (2016, pp. 300-301) contends that both the features of the source organizations and the recipient organization are of significance for knowledge transfers. The informants discuss both the importance of similarities and dissimilarities between the two cities, and present arguments for how these elements may influence the effectiveness of knowledge transfer. As a C40 official states, the two cities in question have some of the larger differences of the Pilot cities, possibly making the transfer process more challenging.

One of the considerations we made in the Pilot was that if there are regional differences, it might create barriers, making it more challenging to implement in one place or another. And Mumbai and Oslo are perhaps among the more diverse cities in the pilot group [...] [Therefore] In my opinion, if we can get Mumbai to do this, we can get anyone to do it (C40 official).

Such an argument follows the importance of contextual differences and similarities within the literature on knowledge or policy transfers (e.g. Røvik, 2016; Lee & van de Meene, 2012; Dolowitz & Marsh, 2002; Marchiori & Franco, 2020). Røvik (2016) proposes that the degree of resemblance or divergence between the recipient and source is an important condition for which translation rules that are appropriate for achieving desired outcomes. A C40 official presents the unique characteristics of Mumbai:

If you look at the scale of the other pilot cities, Mumbai is twice or thrice some of their sizes [...] Also, Mumbai is probably the richest municipality in India. And so even from a budget and scale of the things that they're dealing with, it is a lot. So, just to be able to navigate and manage that, to balance climate action with economic growth, development, and infrastructure planning is obviously a challenge. I think that is probably unique to Mumbai from the other Pilot cities (C40 official).

A former high-ranking government official in Maharashtra further states:

So another thing, which is beautiful, across the world, is that when you are interacting with different cities, one model cannot be put into all the cities. For example, would bicycles be a good thing for Mumbai or a bad thing? Now, there's a huge group that's traveling to work on bicycles here. But looking at the humidity, looking at the climatic conditions, only offices that have shower areas can encourage that. But can everyone else do so? Or then, what is the alternative? These are things I think we need to consider and learn from each other. So, contextual? Absolutely (former Government of Maharashtra official).

These traits and arguments put forward by the informants places emphasis on taking differences into account, and firmly argues that “one model cannot be put into all the cities”. This is in line with the open approach that the informants have been found to take towards allowing adaptations and modifications in the translation process. An informant from C40 explicitly contends this approach:

To my knowledge, I think copying any budget doesn't make sense [...] The contexts are so different and the priorities are so different, and CBs—by the nature of what they are, they are basically a framework. And that has to be adopted for your own city, depending on your priorities, your goals. So I think it would need that modification (C40 official).



Such an argument follows the understanding (e.g. Stone, 2017, p. 10) that policies and knowledge are not “internally coherent, stable things”, fully formed in one context, which moves as a fully formed construct across time and space. It follows the notion that ideas and knowledge are ever-evolving, and will change due to the different influences and interpreters they face on the journey from one context to another.

Dolowitz & Marsh (2002) argue that inappropriate transfers occur when contextual factors are very different, and often lead to undesired differences in policy outcomes in the two contexts. However, the previous statement from the C40 official shows that the informant holds an inherent belief that even though there are barriers and challenges for such knowledge transfers, that is not to say that they will not lead to desired results. As Stone (2017) argues, valuable insights are found in how a policy or knowledge construct changes and develops through its travel from one place to another. Stone (ibid.) emphasizes how knowledge transfers take time, and calls for an increased recognition and appreciation of trial-and-error approaches to policy transfers and adoption.

An informant argues that the Pilot has the potential to generate positive ripple effects if climate budgeting is established in various distinct cities. According to the informant this might enhance the prospects for wider dissemination due to the increased similarities among them.

I believe these initiatives will become lighthouse projects for cities within their respective countries. Once implemented, it becomes much easier for other cities in the same regions to copy what they have done. These cities are likely to have similarities in governance, data foundation and culture. Also similar climate challenges, so they can copy indicators to a larger extent [...] This can have a positive dissemination effect (external consultant, Oslo).

Such a contention resonates with an argument found in several studies, on what characterizes effective knowledge transfers. That is, the more similar the organizational contexts (of the recipient and source), the easier it is to conduct “proper” transfers (e.g., Kostova, 1999; Baker, 1998; Tsang, 2002; Bhagat et al., 2002, as cited in Røvik, 2016). This follows the argument that “similarity breeds connection” and facilitates learning (McPherson et al., 2001, as cited in Lee & van de Meene, 2012, p. 207). Røvik (2016) also proposes that when contexts are largely similar, it may be more fruitful to use a *reproducing* mode, referring to intentional efforts to replicate practices in the source context. This is done in the pursuit of obtaining

results similar to those experienced in the original context, through the exact same means in the new context (Røvik, 2016, as cited in Legard, 2018, p. 176). A C40 official explains their understanding of the process, which aligns with the similarity condition mentioned above.

There are cities with fewer resources, less expertise, and capacity in this area, which will require more time. I believe we will see variations, and need to organize it with different groups and provide support to cities based on their starting point. So, cities with limited capacity, for example, will need us to provide them with a city advisor, to drive the process and provide technical advice on how to implement this. Cities also may have very different governance systems. In future knowledge exchanges, I think we will match cities to identify similarities (C40 official).

This indicates that C40 intends to refine the Pilot by leveraging the insights gained from the first phase of the project. Moving forward, they seek to identify cities with similarities and bring them together to foster productive discussions and facilitate long-term knowledge exchanges.

To really grasp the outcomes of policy transfers, Hartley & Bennington (2006, p. 105) argue that in inter-organizational networks particularly, an extensive local and ethnographic understanding of both source and recipient contexts are required, and members must engage with each other within and across their respective organizations over a considerable time span. An informant from the City of Oslo presents an example of a previous knowledge transfer process that did not turn out to work as intended, where their explanation was that the contextual differences were too significant, and that perhaps the explicitness and understanding of the features of both source and recipient contexts were insufficient.

Oslo established a collaboration with a very small town in South Africa, located in a remote area. Our aim was to assist them in developing a sound environmental plan for their city. However, the endeavor proved to be challenging and perhaps not so successful, as we discovered significant dissimilarities between Oslo and the town. We had progressed much further in our sustainability efforts, while they were still at an early stage. The knowledge we attempted to impart was not compatible with their existing systems. They did not have the expertise, capacity, or political support necessary... This experience has taught us the relevance of considering these factors on climate budgeting work as well. When transferring knowledge, it is crucial to be

aware of the differences between cities and to adapt the information to what the recipient city can effectively assimilate (City of Oslo official).

Similarly, another City of Oslo official describes their perspective on why they believe that simply trying to copy a practice into a new context is not effective, but rather, understanding and adapting to both contexts would be a more relevant approach in achieving desired outcomes.

I mentioned that it's not just about copy-pasting, but rather about having a conscious approach, political grounding, administrative resources, time, and all of that. It applies not only in Mumbai, but also here [...] It is a specific Oslo model [their CB]. Perhaps it's because of my background as a researcher, but you cannot generalize based on one observation. It is not about forcing oneself into a model without engaging in critical discussions with internal stakeholders, those with whom you are collaborating in your city; I believe that would be an unwise use of resources. London has now presented its first CB, which looks somewhat similar to Oslo's. New York will do it soon, but it will not look the same (City of Oslo official).

The City of Oslo informant believes that both sides need to be aware and frank about their reasons for participating in the CB Pilot, and to allocate sufficient resources and time. This follows the argument that certain conditions are necessary for knowledge sharing in organizational networks, such as motivation and mutual goals (Marchiori & Franco, 2020, p. 131). Additionally, Hartley & Bennington (2006, p. 105) found that the most effective inter-organizational networks were usually well aware of the differences that existed between members. The other City of Oslo official follows the same notion, and contends that adapting the knowledge to suit the context and make the recipient feel free to adapt is important. However, a recurring message the informants from Oslo and C40 consistently conveys, is that in their view there are some non-negotiables, or at least rather crucial aspects for how to implement a CB.

It is crucial to anchor the CB politically in the cities that are going to do it. It is important that they have the administrative capacity and expertise, and that they allocate resources to do this. But it is not as simple as saying, "We have seen the light, buy our CB." It doesn't work that way. (City of Oslo official).

However, the most important aspect that they should take from Oslo, if there are any "should" points or at least absolutely should, is that the CB is politically anchored and the involvement of the finance and budgeting process (City of Oslo official).

The informants from the City of Oslo state that there are some principles that need to be present for enabling an implementation of a CB, such as securing political support at all levels. However, apart from embracing the core principles, several informants yet again emphasize the importance of granting cities the freedom to adapt their CBs according to their unique contexts.

We need to find solutions that are adapted to the context in which the cities are situated. But, there are some generic steps and requirements to be able to say that this is a CB, while also providing flexibility for cities to adapt and use it in the most effective way for them (C40 official).

I believe there are elements of the CB in Oslo that can be replicated, but I strongly contend that it needs to be adapted to the local context. When we first attempted to translate the CB model from Oslo to other cities and municipalities in Norway, they were at a much earlier stage but fundamentally shared the same principle. They have different levels of maturity, different resources to allocate, and perhaps a different political structure. Each city is organized differently and has different climate goals and areas of focus. I think it is about identifying the principles of the CB that can be incorporated and tailored to the local context: so, copy certain elements but adapt a lot (external consultant, Oslo).

Adding to this, an important point is made by an Indian co-author of the Sixth Assessment Report of the IPCC:

The policies developed by transnational networks may not always be well-suited to the specific context of a given city or region. Additionally, there may be tensions between local priorities and the goals of transnational networks, which could create conflicts or delays in implementing climate policies. It is important that cities carefully consider the specific policies and strategies proposed by these networks and evaluate them in light of local priorities and contexts (climate researcher, India).

This statement does not seem to contradict with any of the overall approaches the informants from C40, Oslo or Mumbai seem to have towards the CB transfer process. Currently,

however, the local priorities in Mumbai appear to be on other matters than their climate strategy and climate budgeting. In that sense, the point made by the climate researcher seems to be proven true, with a resulting delay of the implementation process on climate budgeting.

As previously mentioned, Lee and van de Meene (2012) propose that cities confronted with significant risks stemming from climate change are more inclined to actively seek information. This notion is further supported by a C40 official, who emphasizes that countries in the Global South should rightfully receive assistance from nations and organizations that possess the necessary resources and solutions for climate mitigation and adaptation.

Can people even afford to resist it [climate action]? They can't, right? India is probably one of the most vulnerable countries from a climate perspective, and I think they completely understand that all and any growth in India would have to be managed from a climate perspective, because it's a very vulnerable country and context. I think it's only fair for the Global South and developing countries to request for support from countries that may have had higher emissions and have had a bigger role to play in the climate crisis that we're in (C40 official).

The statement made by the C40 official highlights one motivating factor behind Mumbai's decision to participate in the Pilot, suggesting a sense of urgency to ensure that effective climate policies are implemented. However, for a successful knowledge transfer to occur, it is not solely reliant on the motivation and active information-seeking of the recipient. Equally crucial is the motivation and level of activity demonstrated by the source itself.

There are plenty of experts in the Oslo municipality working on the CB, and their schedules are already packed with tasks they need to accomplish. However, they are also asked to contribute to transfer the knowledge to Mumbai. If they approach it with a reluctant attitude like, "Do we really have to do this? We don't really have time for it," then that becomes a criterion that leads to an ineffective knowledge transfer (City of Oslo official).

The City of Oslo official explains that if departmental experts in Oslo have a reluctant attitude towards sharing knowledge with Mumbai, the effectiveness of the knowledge transfer is at risk. Furthermore, the informant explains why Oslo has chosen to take part in C40 and the Pilot:

Our climate strategy states that in order to achieve Oslo's climate goals, it is not sufficient to implement numerous effective climate measures within Oslo alone. Climate change is a global issue. So, we must ensure that other cities internationally also reduce their emissions. The way we approach this is by presenting solutions that we believe are effective and can be implemented in other cities, and the CB is perhaps the best example of this. [...] If you are a passive member [in C40], not particularly engaged or politically and administratively involved, you won't benefit much from it. However, if you have a clear goal, such as the climate strategy that states our commitment to work internationally, then you will derive value from it (City of Oslo official).

The informant from the City of Oslo emphasizes that Oslo's participation in C40 is driven by a desire to enable other cities to implement effective solutions for reducing their emissions. They highlight the importance of having a clear goal in order to benefit from transmunicipal collaboration initiatives like the Pilot. Additionally, they highlight that political and administrative engagement plays a pivotal role in facilitating effective knowledge transfer. Our interview data indicates that the administrative engagement in both cities have been somewhat satisfactory. However, as the following sub-chapter will discuss, political engagement from local elites has been lacking on Mumbai's part.

### **7.3.2 The political nature of policy learning and adoption**

Lee and van de Meene (2012, p. 204-208) delineate three key phases in the policy learning process within transmunicipal networks: information seeking, adoption, and policy change. They argue that effective policy adoption and subsequent policy change are more likely to occur when policy leaders take the initiative to seek information. Following the findings of Lee and van de Meene, Mumbai is more likely to achieve the desired policy change through active information seeking based on their political engagement. The data from the interviews suggest that Mumbai initially had its CAP and the CB Pilot as a strong political mandate.

We decided to join the Pilot in October 2021. We were still developing the city's CAP, and we joined the pilot because there was a lot of political push and very strong leadership on climate change at that point (WRI employee).

The Environment Minister [in the government of Maharashtra] was a key figure in getting the plan [the MCAP] drafted, approved and notified, but I would say the

department that is supposed to implement it has not really done much about it (climate correspondent, Mumbai).

Both the informant from WRI and the climate correspondent highlight that Mumbai demonstrated strong political initiative when joining the Pilot program. As noted by Lee and van de Meene (2012, p. 207), political leadership plays a crucial role in facilitating policy learning. However, the informants suggest that the change in government has had an impact on the political drive that was once present. Furthermore, the climate correspondent explains that the department responsible for implementing the MCAP exhibits a lack of willingness to follow through.

Stone (2017, p. 8) underscores the significance of considering contextual and political factors in shaping the acceptance and implementation of transferred policies. To understand failed policy transfers, Stone contends that one must ask questions about which key actors and interests were not incorporated into decision-making or implementation processes. Stone delineates a distinction between "norm-brokers" and "norm takers." Norm-brokers are characterized as institutional entrepreneurs who advocate for policies, exemplified here by WRI and the C40 organization. However, one must also identify and include individuals who possess the power to actually accept and adopt the new policy. Consequently, the success of policy ideas is heavily reliant on the presence of a receptive environment. Stone terms this phenomenon the politics of exclusion, which pertains to the choices made by those in power regarding what to embrace and what to disregard (Stone, 2017, pp. 7-9). The strong political push and reliance on a select few actors in the decision to join C40 and the Pilot may indicate a lack of involvement of other key actors in the affiliation process. With new political actors entering the scene, the policy changes introduced through the MCAP, including the future implementation of a CB, may not be fully accepted yet due to the exclusion of crucial stakeholders.

When they announced the BMC's budget last year, there was a fairly significant contribution to the CAP. But this year [2023], there was no mention of the CAP in the budget. So you've announced something and you've essentially forgotten about it. You've announced something, you've made a budgetary allocation and then the next year, you make no mention of it in the budget and you make no mention of how much we've spent on the CAP, if at all (climate correspondent, Mumbai).

Again, the big driver for Mumbai was that we created the CAP. It's still on the website of the BMC. Unfortunately, the BMC has completely forgotten it with the change in government, and is now scurrying for different committees (former Government of Maharashtra official).

Neglecting to involve the wider political landscape in the adoption process of the CB may have had significant ramifications, impacting the overall unity on climate policies. The informants draw attention to a contrast between the previous and current administrations, pointing to how the stagnation in the development of a CB can be attributed to the change in government. This may highlight the influence of political transitions on the progress and continuity of policy initiatives. Adding to that, these findings may suggest that Mumbai's implementation of climate budgeting might be an instance of decoupling (Meyer & Rowan, 1977, pp. 356-358), where formal organizational structure is decoupled from the measures actually being carried out. As the former Government of Maharashtra official points out, the MCAP is still formally adopted, but not currently put into use. Decoupling is argued to be one of the main ways that an attempt to transfer ideas and practices could fail (Røvik, 2007, p. 30). The continued promotion of MCAP on BMC's website suggests their desire to maintain the legitimacy that the MCAP provides them within their organizational domain.

The significance of political stability for effective climate action is underscored by a former official from the Maharashtra Government. Additionally, a representative from C40 highlights that the inclusion of financial considerations, facilitated by the implementation of a CB, can contribute to stabilizing the commitment to climate policies.

I think the biggest challenge [for climate action] is when governments change. It's gonna be something as important as the defense sector or finance sector. Environment is going to be that important. It has to be. Your nation's security is going to depend on your water resources, your forest resources, your agriculture, your food security. Everything is interlinked with climate. There is always stability in policy for defense and finance with political parties changing [...] there has to be an equal stability in climate action (former Government of Maharashtra official).

Most cities are very interested in financial aspects. But at the end of the day, climate action has to become implementable. If you do not find allocations in budgets or financial instruments, they never get implemented on the ground. I think all cities across the world are consistently and constantly looking for options to make that



happen. It makes it real for them. So, I think the process was very useful for Mumbai because after having done a CAP, climate budgeting was a very tangible, real way for them to see what it would mean to implement this on the ground (C40 official).

The former Maharashtra Government official maintains that regardless of the political party in power, there tends to be consistent stability in commitment towards finance and defense policies. They argue that this same level of stability should extend to the environmental sector as well. This point is supported by the C40 official, who affirms that the financial component of a CB is what particularly piqued Mumbai's interest in participating in the Pilot. As studies have found, soft regulations may exert some influence on early-stage mitigation policies in municipalities. They primarily serve to legitimize climate policy by linking it with other policy areas. However, it is argued that their impact is limited on highly ambitious or disinterested municipalities (Kasa et al., 2018, p. 1).

Nobody is going to be anti-environment or anti-climate action because that's just going to look bad on them. But I think different governments are invested to different levels. The previous government was championing it a lot more aggressively [...] It was a strong mandate for that government. For the current government, I won't say it's a strong mandate. I mean... it's definitely not a strong mandate for them [...] There's no opposition for the CB, but there was a stronger push and a stronger mandate to achieve it and do it before. There is no active push to do this, but there is no opposition at all. (WRI employee).

By connecting environmental policies with the existing stability in financial commitments, it is possible to establish a solid foundation for the long-term stability of climate policies. A common challenge in climate planning lies in the division of responsibilities into silos within governance structures (Cashmore & Wejs, 2014; Innes & Booher, 2010). Nevertheless, based on the research findings of Kasa et al. (ibid.), the disinterest in climate action exhibited by the current BMC government suggests that the Pilot and C40 membership may have limited impact on the development of climate policies. However, informants from C40 and WRI offer an additional perspective on the political engagement on climate action within the current BMC government.

New governments take time to settle in. In my career, I've seen governments change all the time. Of course, it takes time for the governments to settle in, figuring out what is prioritized, and what's not. From my understanding and interactions, climate

continues to be a priority for the government. They're very aware that this is an area that they want to address (C40 official).

There's been a lot of political shuffling in terms of leaders being out of office and new leaders being put in place [...] There's been a bit of instability which makes it less easy to do. Political instability has an impact on bureaucratic positions [...] Bureaucratic positions get moved around in India all the time. So, political leadership or political stability is one way to ensure that there is some sort of bureaucratic stability. But, here they are supposed to move. They move around every two, three years anyway. So you have to work with new officers then, and in a way start from scratch. Not start the work from scratch, but start that one-on-one capacity building and training from scratch. So it can delay the process [...] which is what has happened right now (WRI employee).

In Oslo, on the other hand, there is a different perception of how a change in government would affect the stability and willingness towards climate action and climate budgeting. A City of Oslo official contends that a change in government would not have significantly altered the setup or functioning of its CB.

Not a lot, I believe. Because it has been adopted as a governance tool by the City Council [consisting of representatives from every party]. It is such an integrated part of the governance structure in the municipality that it would be surprising. It might have looked different. We might have less content, but the structure would likely remain. Everyone is very proactive, and we have a broad political consensus in the City of Oslo regarding the climate goals (City of Oslo official).

Another informant shares a similar view, implying that a similar cross-party unity is also needed in Mumbai.

From my perspective Oslo is doing a lot of things right. It's this political unity where pretty much all the parties are somewhat agreeing on that "okay, so these are the basic things that we just need to have in place" (climate correspondent, Mumbai).

Several informants strongly contend that such political anchoring is a fundamental element for the ability to implement and operationalize an effective CB. This is also supported in the literature (e.g. Lee & van de Meene, 2012; Stone, 2017), where the importance of local elites taking the lead in policy transfers is iterated.

You need political anchoring. That is the most important thing (City of Oslo official).

It's necessary that the political elites make the decision to engage in cooperation. That the collaboration is not optional but an obligation (external consultant, Oslo).

This view is also reflected by the specific requirements that C40 presented for the cities that wished to participate in the Pilot program.

We required cities to have political anchoring and commitment to participate. We believe this is incredibly important for implementing a CB. Not all cities had it initially, but they obtained it afterwards. So, they used the pilot to make the case and promote it to political leadership (C40 official).

As already established, Mumbai was argued to have a strong political push when joining the Pilot. However, the current situation in Mumbai shows that the technical teams have not been able to promote the CB process sufficiently to the new political leaders. This reflects how the implementation process in Mumbai seemingly lacks involvement and initiative from key stakeholders both within and outside of the BMC as of today. As Stone contends (2017, p. 8), the success of policy ideas is reliant on the presence of a receptive environment.

I think there is a bit of “doing the work” in terms of showing them [the BMC Government] what kind of insights the city can have. What kind of processes the city can put in place by undertaking this [the CB], and then pitching it to them. Feeling if the Additional Municipal Commissioner is feeling convinced about it or not (WRI official).

The WRI informant describes a lack of top-down engagement in terms of political leaders taking the initiative to work on the CB. Instead, WRI employees are now in a position where they need to pitch the Pilot to chief executives, illustrating how the City of Mumbai in its current state only has bottom-up support. Furthermore, according to a C40 official, both a top-down and bottom-up approach is needed:

There is a need for both top-down and bottom-up approaches to the integration or implementation of a CB. There have been mayors who have heard about this and thought, "we need to make this happen in our city", as well as technical teams within the administration who considered it an effective governance system they want to

promote. So, there has been a combination of both approaches in the Pilot project (C40 official).

It is unquestionably a top-down initiative [in Oslo's case]. It was a political decision that everyone must take ownership of the climate goal, the entire City Council must own the climate goal, and it must be governed accordingly [...] The budget process itself is driven by the administrative side, but the success of the CB would not have been possible without political backing or the initiative from political leadership (City of Oslo official).

The City of Oslo official explains how the top-down initiative was essential for Oslo's implementation of its CB, while also acknowledging that they are dependent on bottom-up initiatives from the administrative level to operate the process. As Røvik argues, when translating a practice, the main obstacle is to ensure that the translation includes all the necessary information to both explain and understand how the practice works and what it is dependent on in its original context (Røvik, 2016, p. 294). Thus, it can be argued that Mumbai lacks an essential element that a CB's functioning is dependent in its original context, namely a top-down initiative.

### **7.3.3 Sub-conclusion**

In this sub-chapter several key factors are identified as possible barriers and challenges that may have stagnated the implementation process towards an operational CB in Mumbai. Likewise, we have recognized several areas in which both cities have succeeded in overcoming potential barriers. The informants provide insights into the significance of both similarities and dissimilarities between the two cities, offering arguments on how these factors influence the effectiveness of knowledge transfer. According to Røvik (2016, pp. 300-301), both the characteristics of the source organizations and the recipient organization play a crucial role in knowledge transfers. Notably, the considerable disparities between the two cities may potentially hinder the ease of the transfer process, posing increased challenges. As studies have shown, the greater the difference between the contexts, the harder it is to achieve proper transfers and facilitate learning (Røvik, 2016; Lee & van de Meene, 2012).

The findings indicate that the informants hold a strong awareness of this notion, and acknowledge the implications it may entail. Still, our interviews indicate an inherent belief that despite the divergence, there still exists elements of common ground within the cities, such as general functionings of the city corporations. From that notion, several informants

hold a firm belief that the Pilot project may bring fruitful and desired outcomes. As the Pilot is entering its second phase, we see how an implementation in Mumbai is hoped to become a lighthouse project for other cities with similar contexts to follow suit. Accordingly, C40 officials show an intent to identify similarities between cities and match them in the hopes of conducting “smoother” knowledge transfer processes. The emphasis and understanding of this similarity condition is found to be largely present by the informants.

The informants are found to encourage taking on an open approach to the knowledge transfer process, and allow alteration and modification for CBs to be adaptable to its recipient contexts. They argue against a one-size-fits-all approach, favoring a trial-and-error method instead. According to Stone (2017), misinterpretations and unintended consequences provide valuable insights into how transferred policies develop over time and are adopted and translated into new contexts.

Our findings underscore that the success of knowledge transfer depends not only on the motivation and active information-seeking of the recipient, but also on the commitment and level of engagement demonstrated by the source organization. The interviews conducted with informants from the City of Oslo reveal that their participation in the knowledge transfer process is driven by a genuine desire to enable other cities to implement effective solutions for reducing global emissions, as outlined in Oslo's climate strategy. They emphasize the crucial role of political and administrative engagement in facilitating the transfer of knowledge effectively. Moreover, our interview data suggests that both Oslo and Mumbai have exhibited reasonable levels of bureaucratic engagement, which enhances the likelihood of a successful knowledge transfer.

Still, we contend that the knowledge transfer is at risk of being incomplete due to a lack of political stability and will at the top-level within the BMC. Lee and van de Meene (2012) highlight that effective policy adoption and subsequent change are more likely when policy leaders actively seek information. However, our interview data indicates that this proactive approach is currently absent in Mumbai. Initially, there was a strong political mandate and active push through the decision to join C40 and participate in the Pilot. However, the change in government has had consequences for the commitment to climate-related initiatives. Currently, the MCAP is formally adopted but not implemented. In this context, we argue that decoupling may help explain the current situation in Mumbai, as the formal organizational structure is detached from the actual measures being carried out. Our findings also indicate

that the City of Oslo demonstrates a higher level of resilience to government shifts in terms of sustaining the CB, thanks to the cross-political consensus on environmental commitments. In contrast, the interviews reveal that such stability is currently not present in Mumbai. The change of government in Mumbai is argued to have resulted in the complete disregard of the MCAP, which is perceived as an initiative introduced by the previous administration.

Nevertheless, as the C40 organization may only exert soft regulations towards the Pilot cities, studies have found that such projects may have some influence in early-stages, primarily by legitimizing climate policy through linkages with other policy areas. However, Kasa et al. argues that soft policies have limited effects in highly ambitious or disinterested municipalities (Kasa et al., 2018, p. 1). The observed lack of commitment on climate action by the current BMC government may indicate that the Pilot and C40 membership have minimal influence on the implementation of climate policies.

Another significant finding is that Pilot might have failed to recognize key actors and interests in the decision-making process during Mumbai's affiliation with C40 and the Pilot. This perspective aligns with Stone's (2017, pp. 7-9) argument on the distinction between norm-brokers and norm-takers. In this case, the norm-brokers are found to be WRI and the C40 organization itself, while the norm-takers are the individuals responsible for preparing and implementing the CB. The strong political push and reliance on a select few actors in the decision to join C40 and the Pilot suggests a lack of involvement of key actors after the political shift. With new political actors entering the scene, the policy changes introduced through the MCAP, including the future implementation of a CB, may face resistance due to the exclusion of crucial stakeholders.

Building on the notion of excluded key stakeholders, many informants stress the need for a top-down approach to operationalize a CB. Representatives from Oslo, C40, and Mumbai all emphasize that anchoring the CB at both the administrative and political top-level is crucial in this process. Additionally, Oslo informants acknowledge their dependence on bottom-up initiatives within the organization to drive the process forward. As Røvik (2016, p. 294) argues, when translating a practice, a decisive challenge lies in ensuring that all necessary information is included to explain and comprehend how the practice functions and what it relies on in its original context. The interview with WRI has revealed an absence of top-down engagement in Mumbai. Instead of BMC officials actively pushing for CB development, WRI employees find themselves having to pitch the governance tool to chief executives, indicating

that the City of Mumbai currently relies solely on bottom-up support. Consequently, Mumbai is found to be missing a crucial element for the functioning of a CB in its original context, namely a top-down engagement. To add nuance to this notion, it is argued by both a C40 official and a WRI employee that a top-down initiative might emerge once the new government settles in. Furthermore, the WRI informants highlight that the bureaucratic system in India is structured in a way that involves frequent reassignments of positions, and it takes time to develop the necessary capabilities whenever these positions are reshuffled, as is currently happening.

## 8 Concluding remarks

This thesis has examined the knowledge transfer process between Oslo and Mumbai on climate budgeting through the C40 Pilot. The research question that the thesis has sought to answer is: *To what extent has the knowledge transfer from Oslo through the C40 CB Pilot facilitated a probable implementation of an operational CB in the City of Mumbai?* This concluding chapter provides a summary of the main results and offers recommendations for future research.

### 8.1 Facilitative factors for implementation

We have identified several factors that facilitate an effective knowledge transfer, increasing the probability of implementing a CB in Mumbai. Our findings highlight the presence of structural and processual similarities between Oslo and Mumbai, which may lay a foundation for an effective knowledge transfer. A significant similarity between Oslo and Mumbai is their parallel trajectory in adopting CAPs, establishing climate cells, and preparing for CB implementation. As emphasized by the literature, the adoption of a CAP is crucial for overcoming institutional barriers in climate action. Oslo initiated its CAP in 2016, followed by the establishment of its Climate Agency and the implementation of its CB in 2017. Similarly, Mumbai launched its CAP in 2021, outlining its climate action roadmap until 2050, including plans for establishing a climate cell and subsequently implementing a CB. These observations indicate that Mumbai shares a processual similarity with Oslo in the steps leading to CB development.

However, there are also organizational differences, such as the fact that the MCAP is formally adopted, yet not put to use. Subsequently, BMC's climate cell has not been established. Although there are organizational differences, several informants assert that the cities have a shared understanding of how municipal governance works. They contend that this common ground sets a strong foundation for effective knowledge sharing and transfer. This aligns with the notion that the more similar organizations are, the smoother the translation of knowledge from the source context to the recipient context becomes (Røvik, 2016; Lee & van de Meene). The emphasis and understanding of this similarity condition is found to be largely present by the informants. C40 officials show an intent to identify similarities between cities and match them in the hopes of conducting "smoother" knowledge transfer processes. As the Pilot is entering its second phase, we see how an implementation in



Mumbai is hoped to become a lighthouse project for other cities with similar contexts to follow suit.

The CB development has come to a halt within the BMC due to a change of government and concurrent reshuffling of bureaucratic positions. Still, we find that there is confidence among the informants that CB implementation can still be achieved when the new government has settled in. They emphasize an inherent characteristic of the Indian political system, which involves frequent reassignments of positions within the bureaucratic system. This necessitates time to develop capacity and capability when such reshuffling occurs, as is currently the case. WRI has been assigned the responsibility of preparing the implementation of Mumbai's CB. The interviews emphasize how the WRI exhibits a broad understanding of the key principles of climate budgeting, as outlined by CB experts, such as recommending the BMC to expand their internal climate related expertise. This recommendation aims to ensure that the BMC becomes self-sufficient in terms of climate planning capabilities in the future. Once again, this aligns with Oslo's approach in preparing for their initial CB implementation. They recognized the importance of dedicating time to develop internal capacity, allowing them to effectively drive the advancement of their CB to the level they have achieved today.

The informants are found to encourage taking on an open approach to the knowledge transfer process, and allow alteration and modification for CBs to be adaptable to its recipient contexts. They argue against a one-size-fits-all approach, favoring a trial-and-error method instead. Granting flexibility for recontextualization of the climate governance policy is seen as an important condition for an effective knowledge transfer. Still, while opening up for adaptation and interpretation, incorporating essential conditions and elements into the transferred policy is emphasized by the informants if the policy is to function as intended. Furthermore, instances of misinterpretations and differing understandings have been underlined by informants on several occasions, underscoring the complexities of translation. As Stone states (2017), this provides valuable insights into policy development in new contexts, as unintended outcomes and misinterpretations are integral parts of the “continuous metamorphoses” that a policy undergoes during a transfer process. The findings indicate that the informants hold a strong awareness of this notion, and acknowledge the implications it may entail.

Lastly, our findings underscore that the efficacy of knowledge transfer depends not only on the motivation and active information-seeking of the recipient, but also on the commitment

and level of engagement demonstrated by the source organization. The interviews conducted with informants from the City of Oslo reveal that their participation in the knowledge transfer process is driven by a genuine desire to enable other cities to implement effective solutions for reducing global emissions, as outlined in Oslo's climate strategy.

## **8.2 Challenges for successful implementation**

Our results identify several factors that have led to the stagnation of the CB implementation process. The previous BMC government established the MCAP, but the current government has not followed up on it. Currently, the MCAP is formally adopted but not implemented. In this context, we argue that decoupling may help explain the current situation in Mumbai, as the formal organizational structure is detached from the actual measures being carried out. It is argued that dialogue between departments might bridge the gap between formal and actual processes. Therefore, it is recommended to have a coordinating climate cell to operate between departments. However, the climate cell has yet to be formed in Mumbai, and little progress has been made toward its establishment. As such, the BMC lacks a body that can provide direction, technical assistance, and serve as a knowledge hub for different departments. Without a climate cell in place, Mumbai risks delaying a CB implementation for an extended period.

We also find that the bureaucrats in the BMC are overworked and deficient in internal environmental planning expertise. Participation in the Pilot and C40 might have influenced WRI to promote a professionalization of the BMC to enhance its climate related capacities. This can be viewed as an example of normative isomorphism (e.g. Eriksson-Zetterquist et al., 2014, p. 254), as Mumbai seemingly pursues greater uniformity towards prevailing standards and practices of other climate-focused cities. In light of the recommendations from Oslo and C40, we find that Mumbai will need to become self-reliant in terms of expertise and organizational capacity to effectively implement their CAP and CB.

We contend that the knowledge transfer is at risk of being ineffective due to a lack of political stability and buy-in within the BMC. Lee and van de Meene (2012) highlight that effective policy adoption and subsequent change are more likely when policy leaders actively seek information. However, our interview data indicates that this proactive approach is currently absent in Mumbai. Initially, there was a strong political mandate and active push for developing a CB. However, the change in government has had consequences for the commitment to climate-related initiatives. Our findings indicate that the City of Oslo

demonstrates a higher level of resilience to government changes in terms of sustaining the CB, thanks to the cross-political consensus on environmental commitments. In contrast, the interviews reveal that such stability is currently not present in Mumbai.

A significant finding is that the Pilot might have failed to recognize key actors and interests in the decision-making process during Mumbai's affiliation with C40 and the Pilot. This perspective aligns with Stone's (2017, pp. 7-9) argument on the distinction between norm-brokers and norm-takers. Norm-brokers are characterized as those advocating for new policies and practices, for example WRI and the C40 organization. However, one must also identify and include norm-takers who possess the power to actually accept and adopt new policies. Consequently, the success of policy ideas is heavily reliant on the presence of a receptive environment. The initial political push, relying on a select few actors in joining C40 and the Pilot, suggests a lack of involvement of key actors after the political transition. With new government officials entering the scene, the adopted MCAP, and subsequent implementation of a CB, may face resistance due to the exclusion of crucial stakeholders.

Building on the notion of excluded key stakeholders, several informants argue that Indian municipalities depend on state and sub-national support to implement specific policies. In contrast, Oslo's CB was adopted without national-level involvement, suggesting that the BMC may also need assistance beyond its own corporation. Furthermore, many informants stress the need for a top-down approach to operationalize a CB. Representatives from Oslo, C40, and Mumbai all emphasize that anchoring the CB at the political top-level is crucial in this process. Additionally, Oslo informants acknowledge their dependence on bottom-up initiatives from the administrative level to drive the process forward. As Røvik (2016, p. 294) argues, when translating a practice, a decisive challenge lies in ensuring that all necessary information is included to explain and comprehend how the practice functions and what it relies on in its original context. The interview with WRI has revealed an absence of top-down engagement in Mumbai. Instead of BMC elites pushing for CB development, WRI finds itself having to pitch the governance tool to chief executives. This indicates that Mumbai's CB currently relies only on bottom-up support, neglecting the top-down initiative found necessary for its functioning in Oslo.

In summary, this thesis contends that the Pilot has largely accounted for the contextual differences between the cities, established shared understandings and cultivated a sense of common ground. However, these efforts have not been sufficient to ensure an effective

knowledge transfer for implementing a CB, as the Pilot has faced challenges in engaging key stakeholders, particularly evident in light of the political shift within the BMC.

### **8.3 Suggestions for further research**

An aspect not discussed in our thesis is that there are notable differences among the cities in the Pilot group in terms of progress on their CB implementation. As highlighted, the implementation process has stagnated in Mumbai, whereas cities like London and New York have integrated CBs into their regular budget cycles through their shared participation in the C40 Pilot.

An intriguing avenue for further research lies in comparing and exploring the outcomes in Mumbai with the ongoing implementation of CBs in cities like London or New York, in response to the C40 Pilot. By comparing the cities that have made greater strides in their CB implementation with Mumbai, one might gain deeper insights into whether and how the challenges encountered in Mumbai have been addressed and potentially overcome. This proposed research direction may enrich our comprehension of the challenges faced in Mumbai and offer valuable insights for policymakers, urban planners, and stakeholders involved in collaborative efforts to effectively share and adopt urban climate strategies with desired outcomes.

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**Word count:** 37 024

## Appendix 1: Consent form

### **Are you interested in taking part in the research project “Transmunicipal Climate Policy Transfer – The Case of C40 climate budgeting in Oslo and Mumbai”?**

*This is an invitation to participate in a Master Thesis Student Project focusing on the case of climate budgeting in Oslo and Mumbai. The research is carried out by Thorvald Nergaard and Olav Skogen, students at the master's program “Organization, Management and Work” at the University of Oslo.*

#### **Purpose of the project**

You are invited to participate in a research project where the main purpose is to study the organization around the CBs in Oslo and Mumbai municipality. We will look at how knowledge and policy transfer is facilitated through participation in the C40 network, while also identifying possible challenges caused by differences in local organizational contexts.

#### **Which institution is responsible for the research project?**

The University of Oslo is responsible for the project (data controller).

#### **Why are you being asked to participate?**

You are being asked to participate because of your role or experience in dealing with climate budgeting or Indian-Norwegian relations in your respective organization.

#### **What does participation involve for you?**

If you choose to participate, you will take part in a semi structured interview lasting 45-60 minutes. We will have to record the interview in order to transcribe the data later. The recording will be deleted as soon as we have transcribed it and will happen within 10 working days. If necessary, we might contact you for follow-up questions. Depending on your role in your organization, you might be identifiable in the finished product. If you want to remain anonymous, please let us know. The data is stored in a secured server, “TSD”, provided by the University of Oslo while the project is active.

#### **Participation is voluntary**

Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous or deleted by your request.

#### **Your personal privacy – how we will store and use your personal data**

- We will only use your personal data for the purpose(s) specified in this information note. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act).
- We will make sure that all data is stored in a safe way using the University of Oslo's recommended research server “TSD”
- We will make sure no unauthorized persons are able to access the personal data you provide us with. The list of names, contact details and respective codes will be stored

separately from the rest of the collected data.

- Your name and contact details, as well as position in the project will be replaced with a code only known by us.
- Only the students carrying out the project will have access to the raw data material.
- All recordings will be deleted after they are transcribed.

### **What will happen to your personal data at the end of the research project?**

The project is planned to finish in July 2023 (the written assignment is to be delivered 30.05.23, but the oral presentation will be up to six weeks later). After this, all data gathered about you is deleted.

### **Your rights**

So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Norwegian Data Protection Authority regarding the processing of your personal data

### **What gives us the right to process your personal data?**

Sikt has approved this project. If you have any questions to Sikt, and why they have given us this permission. Please feel free to contact Sikt at ([Personvertjenester@sikt.no](mailto:Personvertjenester@sikt.no)) or 55 58 21 17.

### **Where can I find out more?**

If you have more questions regarding the student project, please reach out to the contact persons carrying out the project:

Thorvald Nergaard, +47 45 67 37 36, [thorvasn@uio.no](mailto:thorvasn@uio.no).

Olav Skogen (+47 41 08 58 23), [olavskog@uio.no](mailto:olavskog@uio.no)

Thesis advisor, Fredrik Engelstad, [fredrik.engelstad@sosgeo.uio.no](mailto:fredrik.engelstad@sosgeo.uio.no).

Data Protection Officer, [Personvernombud@uio.no](mailto:Personvernombud@uio.no)

*Best regards,*

*Thorvald Nergaard & Olav Skogen*

## Consent form

I have received and understood information regarding the project and have been given the opportunity to ask questions. I give my consent to:

- participating in semi structured interviews.
- letting the interviews be recorded and that recordings are kept until the interview is transcribed (maximum 1 working week).
- that information about me is stored and treated safely until the project is closed.
- that information about me is published in such a way that my role in the project might be recognised.

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(Signature from project participant, date)

## Appendix 2: Interview Guide

### INTERVIEW GUIDE

*Welcome to this interview today and thank you for your participation. We will ask you questions regarding your experience dealing with climate budgeting and policy transfer through the C40 network.*

*As you have read in the information note, the participation is voluntary, and the data is stored on a secure platform provided by the University of Oslo. The recording of this interview will be deleted as quickly as the interview has been transcribed.*

#### QUESTIONS:

What kind of experience or role do you have with climate budgeting (CB) or collaboration between cities?

How was the CB pilot established in your city?

- Who were the drivers?
- What has been achieved?
- What do they/you in your organization want to achieve further?

Could you describe how the work with the CB is organized in your organization?

- Help us draw some kind of organizational chart?
- Which actors are involved in your organization? Internal and external.
- What has the process of implementing a CB in your organization been like so far?  
What will the future development look like?

Is the CB work in your city politically driven/controlled, or mainly initiated by departments in the city's agencies/administration?

In what ways do you feel that participation is useful for your city?

What does your city gain by joining the CB pilot?

How are the experiences and insights from Oslo used for other cities to learn?

- In what ways does this happen?
- What channels are used?
- Are there concrete examples of knowledge sharing or collaboration between the cities so far in the pilot?



Is it intended that the "recipient cities" should primarily copy or modify Oslo's climate budgeting model? Why or why not?

How are C40's resources and knowledge used to plan for the work and build the institutional knowledge and capacity needed?

What role should C40 play in developing recommendations and guidelines for pilot cities?

- How much is it intended that communication about CBs should take place directly between cities, and how much through C40?

How strong support and/or resistance do you experience for the use of KB politically in your city compared to other pilot cities? Are there any major differences?

Would you describe the origin of the idea of climate budgeting as a "top-down" or "bottom-up" initiative?

- Do politicians engage and try to influence the work?

What do you perceive as the most important factors for a CB to work and be further developed in an organization/city?

- How important, for example, is political stability and willingness/commitment?
- How much will a change of government affect the work on the CB, and how strong/stable is it as a governance tool for the city?

Does C40 help ensure that the CB is revised and checked for:

- What worked, what didn't work, how to increase the ambition level and how to organize the work better?
- What forums exist for knowledge sharing within the organization to develop/improve the work on climate budgeting?

How important is it that "silos" in the municipality are broken down while the work on the CB is implemented?

Do you see any institutional barriers in the interaction between municipal agencies, political actors or C40?

- Are there potential barriers that make collaboration or communication between pilot cities difficult? e.g., different governance systems/different levels of competence/culture/language/geographical similarity. etc...

- What has been particularly challenging for knowledge-seeking cities when gathering information from Oslo/other cities with more experience and maturity on using climate budgeting?

To your knowledge, what has worked well in the pilot so far? What has not?

Compared to the other Pilot Cities, what makes your city unique?

In your city, how do you experience the general attitude towards implementing other cities' solutions or ideas on mitigating effects of climate change?

Do you feel that there is broad engagement in your city in the form of being knowledge-seeking when it comes to the implementation of their CB?

What challenges do you think your city will face going forward with the work on their CB?

**Finally:**

Is there anything you would like to add regarding your work on international collaboration and the CB pilot that we have not asked about?

*Thank you for participating. If you have any questions or clarifications later, please don't hesitate to contact us. The same applies if you want to go through your answers or provide additional information.*

# Appendix 3: Ethical approval

12.05.2023, 12:55

Meldeskjema for behandling av personopplysninger



[Meldeskjema](#) / [Masteroppgave "Transmunicipal Climate Policy Transfer"](#) / Vurdering

## Vurdering av behandling av personopplysninger

<b>Referansenummer</b> 461628	<b>Vurderingstype</b> Standard	<b>Dato</b> 23.02.2023
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**Prosjekttittel**  
Masteroppgave "Transmunicipal Climate Policy Transfer"

**Behandlingsansvarlig institusjon**  
Universitetet i Oslo / Det samfunnsvitenskapelige fakultet / Institutt for sosiologi og samfunnsgeografi

**Prosjektansvarlig**  
Fredrik Engelstad

**Student**  
Thorvald Storm Nergaard

**Prosjektperiode**  
02.01.2023 - 12.07.2023

**Kategorier personopplysninger**  
Alminnelige  
Særlige

**Lovlig grunnlag**  
Samtykke (Personvernforordningen art. 6 nr. 1 bokstav a)  
Uttrykkelig samtykke (Personvernforordningen art. 9 nr. 2 bokstav a)

Behandlingen av personopplysningene er lovlig så fremt den gjennomføres som oppgitt i meldeskjemaet. Det lovlige grunnlaget gjelder til 12.07.2023.

[Meldeskjema](#)

**Kommentar**  
OM VURDERINGEN  
Sikt har en avtale med institusjonen du forsker eller studerer ved. Denne avtalen innebærer at vi skal gi deg råd slik at behandlingen av personopplysninger i prosjektet ditt er lovlig etter personvernregelverket.

TYPE PERSONOPPLYSNINGER  
Prosjektet vil behandle særlige kategorier av personopplysninger om politisk oppfatning.

FØLG DIN INSTITUSJONS RETNINGSLINJER  
Vi har vurdert at du har lovlig grunnlag til å behandle personopplysningene, men husk at det er institusjonen du er ansatt/student ved som avgjør hvilke databehandlere du kan bruke og hvordan du må lagre og sikre data i ditt prosjekt. Husk å bruke leverandører som din institusjon har avtale med (f.eks. ved skylagring, nettspørreskjema, videosamtale el.)

Personverntjenester legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1 f) og sikkerhet (art. 32).

MELD VESENTLIGE ENDRINGER  
Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til oss ved å oppdatere meldeskjemaet. Se våre nettsider om hvilke endringer du må melde: <https://sikt.no/melde-endringer-i-meldeskjema>

OPPFØLGING AV PROSJEKTET  
Vi vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!