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The Co-creation Paradox: Small Towns and the Promise and Limits of Collaborative Governance for Low-Carbon, Sustainable Futures

Trond Vedeld*

Trond Vedeld,
International Studies and Migration, Norwegian Institute for Urban and Regional Research (NIBR), OsloMet – Oslo Metropolitan University,
Norway
trondv@oslomet.no

Abstract

Co-creation is considered a 'near perfect strategy' for resolving complex and unruly public problems, such as climate change. Based on data collected among small Scandinavian towns, this article investigates the role of co-creation in the urban governance of climate- and sustainability responses by looking at their vertical and horizontal integration in the wider polycentric governance framework. The article has a two-fold aim. First, it develops an analytical framework for investigating how small towns and municipalities navigate in a range of governance contexts based on two strains of theories on *collaborative governance* and *urban climate* governance. Second, it applies this framework to a comparative study of small towns to analyse how co-creation plays a strategic role across types and scales of governance in relation to an evolving climate agenda. The article finds that new forms of public leadership in each of the three municipalities and towns is a main factor in the 'remaking' of collaborative planning arenas, triple helix partnerships, business alliances, city networks and collaborative pilot projects, much in a similar manner as observed in global cities. Co-creation is extensively employed as a proactive policy- and leadership instrument. However, the nature of response is uneven across the cases compared. A *co-creation paradox* is suggested: limited municipal politico-administrative leadership and capacity correspond to a low level of ability to engage in co-creation of solutions. This implies that those organisations with the most need for co-creation may have the least capacity to do so.

Keywords:
Co-creation,
public governance,
paradox,
small towns,
urban climate sustainability

Introduction

Compared to the extensive scholarship covering how high-capacity global city pioneers are taking the lead in the collaborative governance of climate and sustainability transformations across scales (Bulkeley & Betsill, 2013; Castán Broto & Bulkeley 2013; van der Heijden 2018; 2019; Bulkeley, 2021), there is limited theoretical and empirical knowledge of how small- and medium-sized cities and towns are faring in terms of tackling complex and unruly public problems (Campbell, 2016; Hughes, 2017; Bergsli & Harvold, 2018; Wurzel et al., 2019; Kern, 2019; Næss & Moberg, 2021; Russel & Christie, 2021). In response to this gap in the literature, this article explores how public leadership in three Norwegian municipalities and towns, through design of policies and institutions, are delivering new and diverse forms of collaborative governance for low-carbon, sustainable futures. We are interested in the role of co-creation, as a specific form of collaborative governance, in shaping such governance (Sørensen et al., 2021; Pierre, 2019; Ansell & Gash, 2018). The article has a twofold aim. First, inspired by governance theory (Ansell & Torfing, 2021; Sørensen and Torfing, 2019) and empirical scholarship on climate governance in global cities (van der Heijden, 2019; Bulkeley, 2021), the article constructs and adopts a multilevel, polycentric governance framework of ideal co-creation

***Trond Vedeld**, PhD, is a Research Professor (Forsker 1) of the International Department at Norwegian Institute of Urban and Regional Research (NIBR-OsloMet), Oslo Metropolitan University. His research interests are on public administration, collaborative governance, co-creation, urban- and climate politics, sustainability and public leadership. He has published extensively on these topics; most recently on the theme of cities as public agents and the role of co-creation as a pro-active policy- and leadership instrument – with case studies from Scandinavian and African cities.

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strategies which may be utilized by city governments to build climate governance capacity and address urban climate solutions in a range of contexts and with diverse constellations of actors. Second, this framework is applied to a comparative study of three small towns to illustrate how co-creation is also a tool for relatively successful public leadership and co-governance in small-town situations, supported by conducive institutional design and facilitative public leadership. Hence, by drawing upon emerging New Public Governance (NPG) theory, the article contributes both an in-depth comparative empirical study of urban collaborative governance in small Norwegian/Scandinavian towns, and an analytical framework with wider relevance to both researchers and practitioners. The analyses highlight factors that condition the proliferation of new forms of multiparty social problem-solving that are not necessarily dominated by either public actors (the 'state') nor confined to market actors (the 'market') or more conventional market-based policy networks of the New Public Management (NPM) sort (Ansell and Torfing, 2021; Sørensen et al., 2021; Torfing et al., 2012; Heinen et al., 2021).

The article proceeds as follows. First, we present the analytical framework. Second, we describe the methodology, comparative case study approach, and a brief overview of the features of the case study towns. Third, we explore key governance strategies, focusing on the role of co-creation in each one. Finally, we present a comparative analysis before summing up and concluding.

Analytical Framework: Polycentric Perspective and Related Assumptions

Converging advances in theory

The analytical framework that guides the empirical analysis helps to identify key factors that shape public leadership and design of interactive urban governance. It is informed mainly by two strains of literature: *urban climate governance scholarship* (Bulkeley & Betsill, 2013; van der Heijden, 2018; 2019; Hickmann & Stehle, 2019; Bulkeley, 2013; 2021) and *collaborative governance literature* (Weber & Khademian, 2008; Ostrom, 2010; Ansell & Gash, 2018; Torfing et al., 2017; Torfing et al., 2021). A remarkable convergence between these two independent streams of literature can be observed in that both stress that when confronted by complex, wicked public problems such as climate change, multiple agents (organisations, leaders, individuals) are able to meet, make credible commitments and devise institutions, policies or rules that change the basic structure of the constraints they face and align policies and actions to enable collective initiatives to create public value (Kehohane & Ostrom, 1994; Torfing et al., 2017; Ansell & Gash, 2018; Jordan et al., 2018; Strokosch & Osborne, 2020; Sørensen & Torfing 2020b, 2021; Hofstad et al., 2021a/b; 2022a/b). Furthermore, since the robustness and efficiency of such collective institutions are perceived to depend on willing cooperation among all relevant agents, the importance of creating a minimum degree of mutual trust to ensure that all participants within the 'governance ecosystem' are willing to comply with adopted goals and strategies to limit 'free-riding' is highlighted (Ostrom, 2010; Jordan et al., 2018; Kern, 2019).

Collaborative governance and co-creation

In line with these arguments, recent collaborative governance scholarship suggests that co-creation offers a 'near perfect strategy' for achieving ambitious climate and sustainability goals in urban contexts, but may often face institutional, political and leadership barriers or otherwise be reduced to limited involvement of professional stakeholders in the policy formulation phase (Sørensen & Torfing, 2020; 2020b). To this end, we argue that it is likely that, as the evolving climate agenda moves into broader consumption, behaviour and circular economy issues and gains political priority, it will require strengthened calls for co-creation and the involvement of both citizens and private actors in open-ended multiparty problem solving. Co-creation is defined here as a distinct form of collaboration; an interactive process in which two or a number of public and/or private actors attempt to solve a shared public problem or task by exchanging different kinds of resources serving to co-initiate, co-design and/or co-implement strategies, policies, regulatory frameworks or technological solutions (inspired by Torfing et al., 2017; Hofstad et al., 2021b; 2022a/b). It offers a way of solving the climate crisis as a collective or public problem in a world where power and authority is distributed across levels, scales and organisations (Ostrom, 2010; Sørensen & Torfing, 2020b). The focus on multiple actors in multi-modal, multi-scalar interaction suggests that co-creation is moving beyond 'citizen participation' and a dyadic 'co-production' of services (Strokosch & Osborne, 2020; Ansell & Torfing, 2021). It is concerned with new forms of public leadership and the policy and institutional design of collective arrangements beyond the state and the market that enable collaborative platforms, interactional processes and networked projects (Weber & Khademian, 2008; Ansell & Gash, 2018; Sørensen et al., 2021). It requires the active engagement of all kinds of relevant and concerned public and private actors (Torfing et al., 2017; Hofstad et al., 2021; 2021b;), and a shift from 'talk-centric' to 'action-centric' problem solving (Sørensen and Torfing, 2020). Such collaborative institutions may generate productive and innovative public value outcomes in multiparty encounters (Ansell & Torfing, 2021), but can obviously also exacerbate the 'dark sides' of co-creation and lead to destructive and perverse results, which are of less concern to our analysis in this paper (Ostrom & Kehohane, 1994; Ostrom, 2010; Steen et al., 2018).

Five ideal governance strategies

We propose that institutional design and public leadership may be combined into five different ideal co-creation strategies of urban climate and sustainability policy making, depending on the context (Bulkeley, 2013; Hofstad et al., 2021b; van der Heijden et al., 2019). Table 1. provides an overview of each of these governance strategies, possible corresponding generic types of co-creation likely to be found, and key assumptions about the potential role of co-creation in each. A main point here is that co-creation often still lacks a solid and comprehensive institutional structure or administrative framework within which stakeholders with different interests can interact and collaborate (Ansell and Gash, 2018). The collaborative governance literature thus suggests that institutional design and leadership are the strong factors employed for providing such stabilizing framework and ground rules for collaborative interaction (Ansell and Torfing,

2021; Ansell and Gash, 2018). The exercise of leadership plays a crucial role in designing, promoting, and giving direction to co-creation (Sørensen et al., 2021; Sørensen & Torfing, 2019). The framework is thus inspired by both governance and urban climate governance scholarship. First, we apply a modified framework of the original work of Hooghe & Marks's (2003) on governance, which makes a distinction between multilevel (Type I) and polycentric (Type II) modes of governance, inspired by later scholars. It has beend merged into a joint multilevel, polycentric governance framework, cf. for example Hofstad et al.,(2021b), Heinen et al., (2019); Hickmann and Stehle, (2019, but also Ostrom (2010).[1] Second, this combined framework has been deconstructed into the five different ideal co-creation strategies related to specific collaborative governance approaches depending on context, constellations of specific actors and available leadership measures (Hofstad et al., 2022). These five strategies also find support in the growing empirical scholarship on global cities, which emphasizes a variety of explaining institutional factors for successful urban (climate) responses and collaborative governance performance (van der Heijden, 2019). These factors can be represented in the five interactional relationships that make up the analytical framework which is applied to the analysis of small town governance. Each of the core relationships represents key assumptions about relevant potential co-creation features (cf. Table 1):

1. The assembling and aligning of internal actors and enhancement of whole-of-government integration to provide priority to climate goals over sector concerns and ensure climate policy integration (Adelle & Russel, 2013; Hofstad et al., 2021a, Atkinson, 2019),
2. The active interplay of municipal agencies with higher governmental levels to ensure adapted local policies and infrastructures (Anguelovski & Carmin, 2011; Bulkeley, 2013; Hickmann and Stehle 2019; Kern 2019; Hofstad and Vedeld, forthcoming),
3. The engagement in interactional relationships with external business stakeholders to ensure ownership and leverage additional resources and pursue collaborative innovation (Atkinson, 2019; Hofstad et al., 2021b; Vedeld et al., 2021, Bulkeley, 2021),
4. The involvement of citizens and organized civil society to build trust, ensure buy-in and democratic anchorage (Atkinson, 2019; Bulkeley, 2021; Sørensen and Torfing, 2020, and, finally,
5. The involvement of city agents with networked experimentations and trans-local and transnational city networks at different scales as a key approach to learning and capacity development (Bulkeley & Betsill, 2013, 2007; Bulkeley, 2013; Smeds & Acuto, 2018; Bernstein & Hoffmann, 2018; Hickman & Stehle, 2019; van der Heijden, 2019; Pierre, 2019; Vedeld et al., 2021; Hofstad et al., 2022a; Hofstad and Vedeld, forthcoming).

The content of the table is also inspired by our empirical observations through feed-back/feedforward analysis, meaning that each of these factors or relationships impact upon potentially successful collaborative governance of the case towns. Co-creation is interpreted broadly to capture how a municipal climate- or planning agency mobilizes and collaborates with multiple external actors and engage in e.g., public-public, public-private-civic, and/or more

complex triple/quadruple helix arenas, platforms, networks, or partnerships, whether enabled 'from above' or 'from below'.[2]

Table 1. Five ideal governance strategies, generic types of co-creation and basic assumptions (Author's construct)

Multilevel, polycentric governance	**Generic types of co-creation platforms, arenas, networks**	**Our assumptions about role of co-creation in shaping urban governance in Scandinavian towns**
1. Internal whole-of-municipal government strategy (policy integration within the municipality)	Dedicated coordinating agencies to drive integrated climate policy and town planning (Bulkeley, 2013; 2015; Anguelovski & Carmin, 2011) Local formal/informal planning processes and instruments (Hofstad et al., 2021a) Working groups across sectors (van der Heijden, 2019) Climate budgeting and accounting (Vedeld et al., 2021)	Assumption: despite embedded in similar national context, towns/municipalities reveal varying outcomes in terms of goals, organisation, and policy change; internal agencies engage actively to align and coordinate across departments and sectors in diverse arenas and platforms
2. Multilevel, vertical integration (adaptive policy making, upward bargaining with national state and regional public actors)	Regional planning platforms and networks (Gunnes, 2018; Hanssen & Aarsæther, 2018; Healey, 2009) Arenas for policy negotiation at regional and national levels (Kern, 2019) Involvement in City Growth Compacts (on transport-land use-climate) (Hanssen & Tønnessen, 2021)	Assumption: national policies are generally supportive, but leave local policy design much to the discretion of decentralized municipalities, while motivating upward bargaining in many arenas to change national policy and expand own space of maneuver
3. Polycentric, externally focused private sector stakeholder strategy (distributed mobilization of private business)	Design of or partaking in triple helix platforms (Hofstad et al., 2021a; 2022b) Business associations and arenas (Barlindhaug et al., 2014; Atkinson, 2019) Planning platforms of estate developers and development compacts (Hanssen & Aarsæther, 2018) Negotiation platforms in planning (Ansell & Gash, 2018) Networked experimentations (Castán Broto & Bulkeley, 2013; Smeds and Acuto, 2018)	Assumption: strong collaboration with private businesses and property owners in urban planning and development to mobilize policy ideas/resources; limited citizen participation due to character of contingent development issues

Table 1. Continued.

Multilevel, polycentric governance	Generic types of co-creation platforms, arenas, networks	Our assumptions about role of co-creation in shaping urban governance in Scandinavian towns
5.Polycentric network strategy (to learn & enhance capacity)	Trans-local municipal networks and sub/regional planner networks (local, regional, national) (Jordan et al., 2018; Wagner & Growe, 2021, Russel & Christie, 2021) Transnational networks and EU/projects (Pierre, 2019; van der Heijden, 2019; Hofstad and Vedeld, forthcoming)	Assumption: strong involvement in trans-local networks to learn/enhance metropolitan co-governance; varied engagement in international networks due to capacity limitations

One distinguishing factor in these five ideal co-creation strategies is their relative dependence on regulation and formal authority since they draw upon the authority of diverse constellations of public versus private actors in each context and for diverse purposes (Hofstad et al., 2021b; 2022a; van der Heijden 2019). For example, related to interaction with external stakeholders, civil society, and networks respectively, the city leadership cannot, in the same manner as in the internal whole-of-government strategy, rely on direct bureaucratic mechanisms or mandated authority to motivate engagement of actors, but needs to rely on a combination of regulation, incentives, and co-creation.

Methodology

The conceptual assumptions above lead over into the empirical section and analysis, covering data material from the period 2016-2020 from three regional town-cases in Oslo metropolitan area chosen on a diversity of criteria to ensure similar sets of modes, patterns, and processes of collaborative governance (Ward, 2010). They operate under the same basic national and regional policy framework. All three are regional 'railway station' towns located within 20-30 km from Oslo city centre and each them has been identified as regional 'growth centres' in regional transit oriented development plans for the Oslo region (as public transport nodes in the Western, North-Eastern, Southern transport corridors out of Oslo); Sandvika (located in Bærum municipality 18 km to the West of Oslo), Ski (located in Ski municipality 27 km to the South-East) and Lillestrøm (located in Skedsmo municipality 22 km to the North-East). The urban governance of these small towns is assumed to be relevant for studying emerging climate and sustainability approaches in small, regional towns typical of Scandinavia located on the fringe of a larger capital city. 'Small town' is here defined as below 30 000 inhabitants. To secure a degree of functional equivalence, the towns were selected with comparative climate and compact city development challenges and goals, substantive institutional capacities, evolving collaborative approaches, and similar geographic location in relation to Oslo, although Sandvika and Lillestrøm benefits more from a closeness to and functional integration with the city of Oslo. Each of the towns are important

administrative centres or 'capitals' of three relatively large and well-endowed municipalities. Hence, due to these features of being above-average endowed and capacitated, and each having adopted relatively ambitious 'compact' city transformation and sustainability goals, we expect to reveal specific leadership, organisational and policy changes and active networking and co-creation with external actors. The comparative approach opens for an understanding of variations across socio-eco-spatial and local political contexts (Yin 2017) and nuanced learning from contrasting the cases (Ward 2010).

Regarding demography, Table 2. reveals that Bærum municipality encompasses two and a half times the population of Skedsmo and four times that of Ski at the time of fieldwork. This corresponds to greater administrative capacity in planning and climate action. Regarding town population size, Ski has 20 000 inhabitants which is three times the population size of Sandvika's close to 7 000 people. Hence, the smallest municipality is confronted with urban transformation in the largest town. The varying size and capacity, provides an added opportunity to explore if size and capacity matter in terms of capability to engage in collaboration: large-size (Bærum), medium-size (Skedsmo) and medium/small-size (Ski).

Moreover, since climate and sustainability are deeply value based and highly political issues, the political coalitions dominating in each of the Executive committees of the municipalities is of relevance to how sustainability governance is shaped. The table reveals that Bærum is governed by a Conservative-Green coalition; the 'climate-friendly' parties (Green Party, Liberal Party, Socialist Party) making up about 20% of the total votes (2019 election), compared to about 10% in the municipalities of Ski and Skedsmo, which are governed by coalitions led by the Conservatives (Ski) and Labour Party (Lillestrøm) respectively, both political parties less progressive in urban climate politics than the 'green' parties.

Table 2. Political coalition and demography of three towns and related municipalities (as of 2019)

Political coalition and demography	**Sandvika/Bærum**	**Ski/Ski (Nordre Follo from 2020)**	**Lillestrøm/Skedsmo (Lillestrøm from 2020)**
Main political coalition in the executive branch	Conservatives/Green Party/Liberal Party	Conservatives (Labour since 2019)	Labour/Left Party
Population of town versus municipality	6 700/ 127 000	20 000/ 31 000	12 500/ 56 000

The study is based on a mixed qualitative approach to data collection with several types of data sources. First, we carried out analysis of core public documents to gain an overview of the forms and content of strategies and how they had been developed through collaborative approaches, both formal policies and plans (latest municipal development plans, planning strategies, area-based plans), and informal plans (city design plans and thematic plans of relevance to climate) and other informal instruments and strategies, to understand how climate and sustainability issues were addressed/institutionalized and what co-creative efforts were implied (cf. Table 3). Second, we conducted a series of 46

semi-structured interviews in total with public officials and private business and civil society sector representatives in the towns (and three interviews at regional county level) (Table 3, Appendix 1 on key themes of the questionnaire). These interviews were recorded, transcribed, and coded in NVIVO and systematically compared across the cases. Third, socio-political and demographic data drew upon national public health promotion data to compare e.g., education levels, wealth levels, unemployment, and poverty rates (Public health profiles, 2019 data at municipal level).[3] Fourth, the election results in 2015 and 2019 respectively informed data on evolving compositions of the ruling majority in Executive committees.[4]

Table 3. Main formal and informal policy documents reviewed and mapped (core examples)

Main documents	**Sandvika/Bærum**	**Ski/Ski**	**Lillestrøm/Skedsmo**
Formal planning documents and policies	Municipal development plan (2017-2035)	Municipal development plan (2011-2016)	Municipal development plan (2019-2030)
Climate and energy strategies and other thematic plans	Climate Strategy 2030 (2018); Climate Wise Community (2016)	Climate and energy plan (2009-2013), Environ/ climate quality guidelines	Climate and energy plan (2016-2020) & (2009-2013)
No of interviews:46 Planners/officials:17 Politicians:6 Private sector:10 Welfare associations:3	No of interviews:12 Planners/officials:6 Politicians:3 Private sector:2 Welfare associations:1	No of interviews:13 Planners/officials:6 Politicians:2 Private sector:4 Welfare associations:1	No of interviews:11 Planners/officials:5 Politicians:1 Private sector:4 Welfare associations:1

The Case Studies in Short: Socio-Eco-Infrastructural and Political Characteristics

Albeit similar in important aspects, the towns upon closer inspection reveal diverse structures and urban forms, ecologies, infrastructure, political and socio-economic contexts which do provide diverse challenges for town governance and condition the governance and active land-use approaches to compact, sustainable living and mobility (cf. Bulkeley, 2013; 2021). However, each of the towns/municipalities are confronted with similar high levels of GHG emissions especially from transport, the building and construction sectors, and from indirect consumption.

Sandvika is the smallest of the three towns with 6 500 people, located 15 km and 12 minutes from Oslo. It is an old railway station town served by a double railway and frequent speed trains with emerging city qualities (undermined by a dominant next-door shopping mall). It is located within one of the most affluent municipalities in Norway (Bærum) with a relatively high-income, high-educated population, with high-ownership rates of cars, including el-cars, high car dependency and thus high CO2 car-footprints per capita. The town/municipality includes a variety of assertive knowledge-based businesses and workplaces, including progressive green-tech and energy firms, that define the business landscape, related organisations and networks, manifest also in the dominant

'white collar' workforce, value orientation of citizens (conservative and green), and high social capital (cf. Seehusen, 2019). The social composition is as such reflected in the Conservative-Green ruling coalition.

Lillestrøm has a population of 12 500 people, double that of Sandvika and considerably less than Ski. It exposes more obvious city qualities and stronger town identity than the two other towns. It has a history as a wood industry- and labour class-dominated railway-station town. City qualities have evolved over the last two decades, reflecting the town's early connection with high-speed train to Oslo (in 2010), gradual growth in population and recent expansion in housing and town development projects (cafés, bars, hotels). The municipality of Skedsmo, however, encompasses the least affluent population among the three, with the relative highest rate of poor and unemployed and lowest average rate of education. The town has a varied but traditional business sector related to the oil- and energy sector, including alternative energy such as biofuel, solar, and hydrogen, and logistics. It is located close to a research/university campus at Kjeller (2 km). The town encompasses fewer knowledge-based think tanks and firms relevant for town development than for example Sandvika/Bærum and is a more 'traditional' town in terms of labour workforce, innovation, and green transformation except for the triple-helix partnership of the 'Knowledge City Lillestrøm' platform (cf. Pirotee, 2019). The Labour Party has for long been dominant in the ruling coalitions of the municipality.

Ski is the largest of the three towns with 20 000 people. Reflecting its rural location and history as an agricultural influenced railway-station town, it lacks multipurpose city qualities, in part due to city life being drained by a local shopping mall. It is located furthest from Oslo, the centre being about 20 minutes away by train (to be reduced to 10 minutes as the new double-railway connection opens in 2022). Reflecting its 'rural' location to the East of Oslo, the municipality encompasses a traditional, albeit varied business sector. It includes a less dense and vibrant landscape of knowledge-institutions and businesses and related platforms than the two other towns and is possibly the least functionally integrated town with Oslo (cf. Gunnes, 2018). It has been ruled interchangeably by coalitions lead by the Labour Party and the Conservatives, with limited presence of 'green parties'.

Empirical Investigations of the Role of Co-creation

The empirical investigation of the three cases is guided by the analytical framework provided by the five ideal collaborative governance strategies. The comparative analysis focuses on how the municipal governments navigate in similar or different manners within the wider multilevel, polycentric governance framework, the key focus being on how co-creative and multiparty social problem-solving, planning and implementation are utilized strategically to build own capacity and leverage additional private resources for addressing climate solutions and urban sustainability.

Internal whole-of-municipal government strategy: Goals and institutionalisation

Based on the first analytical assumption, this section examines the internal responses undertaken by the municipalities in terms of coordinating and

integrating climate mitigation and town development policies and actions and aligning own entities and sectors to place priority on cross-cutting goals (Adelle & Russel, 2013). We are particularly interested in how public leadership engage in changing internal climate and planning-related organisation and the role of co-creation in shaping town governance, collaborative innovation and public value (e.g., developing attractive public spaces and city life as perceived by citizens). To this end, each of the municipalities' planning- and climate agencies/teams create coordination arenas and cross-sector working groups to align departments, and bridge between sectors and professions to mitigate the negative effects of administrative sector organisation. This is key to further a coherent strategy and predictability in the collaborative encounters with external stakeholders. The importance of the whole-of-government strategy for collaborative urban innovation and development is underscored by the municipality being the main or dominant actor in town through its broad authority, owner of large estates and purchaser of goods and services, and responsibility for e.g., society and land-use planning, development of infrastructure, green mobility, public/green space and town utilities and services.

Table 4. provides an overview of the climate- and town-development goals and suggests a similar approach to town development, albeit with nuances that captures place-based challenges. Each of the towns executes ambitious plans developed with close involvement of external stakeholders to more than double the local population from existing levels in a short time span through pronounced compact town-centre development within a radius of 2 km from the railway station. The plans include 15-19 story high-rise building in and around the town centres, whereas previously very few buildings were above 6-8 floors. However, local municipal goals and visions and collaborative approaches differ across the cases and reflect local politics and observed local challenges, even if regional and national policies also impact local decisions considerably; Sandvika wants to become a capital for the municipality with a focus on 'recreation' and 'innovation'; Lillestrøm aims for broad-based 'sustainability' and a 'biking friendly' town with emphasis on work-place development; and Ski is to develop into a 'regional attractive and competitive' town. Regarding specificity of climate goals, it is noticeable that 'Conservative-Green' Bærum involves the largest clarity and ambitions in its Climate 2030 Strategy and the most conscious focus on co-creation, reflecting both short- and the long-term goals with specified emission reduction targets which are not found in the two other municipal climate strategies (at the time of fieldwork).

*Table 4. Goal-setting, institutionalization and operationalization**

Key climate and town development goals	Sandvika/Bærum	Ski/Ski	Lillestrøm/Skedsmo
Compact city development policies and high-rise buildings/urban forms	Triple number of inhabitants from 6 700 to more than 20 000 in 2035 Densify from 6-8 storey to 16 storey buildings	Double number of inhabitants from 20 000 to about 40 000 in 2030 Densify from 5-6 storey to 14-15 storey	Double number of inhabitants towards 2040 Densify from 5-6 storey to 16-19 storey
Climate goals*	Short- and long-term goals - reduced by 55-60% in 2030; climate neutral by 2050	No specific CO2 reduction goals. Emission reduction through efficient land-use planning reduce transport needs*	Towards 2030 become significantly lower emission than in 2016*

* The latest climate plan for the new Ski/Nordre Follo municipality as Ski merged with the neighbouring municipality (in 2020) is more specific and ambitious - 55% reduction by 2030 – similarly in Lillestrøm/Skedsmo ambitions and specificity were raised to 50% reduction in 2030 after merging with two neighbouring municipalities (in 2020) to form Lillestrøm municipality after the fieldwork for this study was completed

Sandvika/Bærum is a case in point regarding institutionalisation of both climate goals and sustainability goals and collaborative innovation. The Climate Strategy 2030, which is based on a concept of becoming a 'Climate Wise' municipality, aims to contribute to the 'green shift' through mobilization of the 'whole of the Bærum society' in a variety of arenas, residents, businesses, organisations, politicians, and the municipal agencies. 'Climate Wise' is tied to the UN SDGs, including all three dimensions. A 'low-carbon' society is to be achieved through reduced consumption, re-use and recirculation linked to innovations in mobility, buildings, construction, and resource use. In contrast to the two other municipalities, the climate organisation in Bærum municipality is comprehensive and linked to leadership by a Climate Secretariat across departments and agencies. This bargains for co-implementation of the Climate Strategy 2030. A separate Climate Program Advisory Board has been established consisting of all municipal directors and agency directors, being intimately linked to the Smart City Bærum platform. This municipal-initiated platform combines 'hands on' and 'hands off' efforts in mobilizing a variety of external stakeholders in both direct dialogues to resolve specific climate- or town-related problems or indirect negotiations to adapt policies and approaches to local contexts. The climate work is included in annual action programs across sectors, specific budget allocations, climate-friendly procurement rules, new planning approaches, results reporting and emerging work on a climate budget process (which is a 'state-of-the art' approach). Bærum furthermore illustrates the importance of firm backing by a political 'green' leadership. The decision in the Executive in Bærum (in 2015) to move forward with the compact, climate-wise strategy for Sandvika was approved by a slim majority, the Green Party representatives voting with the Conservatives majority to ensure its adoption.

In contrast, Lillestrøm/Skedsmo has only a small high-level climate coordinating group and lacks an operational and cross-sectorial oriented full-

fledged climate team and leadership, while Ski encompasses only a small climate mitigation 'team' consisting of two persons located to the Geo-data team at the lowest level in the municipal structure cf. Tables 4. and 5. Climate approaches thus receives lower politico-administrative priority than in Bærum and do not enhance internal co-creation and governance efforts to the same extent.

Table 5. Organisational and administrative capacity of climate entity and instruments

Whole-of-municipality approach to planning and climate change	Sandvika/Bærum	Ski/Ski	Lillestrøm/ Skedsmo
Dedicated administrative entity to coordinate climate agenda	Coordinating climate entity/team; 5 professionals; Climate Secretariate (high level), Climate Board, Climate Panel	No coordinating unit, 1-2 climate professionals located distant from Mayor's office	Small coordinating unit, climate policy group with Vice/Mayor represented
Approach to institutionalization and operationalization of the climate agenda	Climate 2030 strategy, networked experimentation, new procurement rules w. climate criteria, mobility strategy, green accounting, climate budgeting	Climate and energy plan, green accounting, environmental quality program in planning and procurement, mobility strategy	Climate and energy plan, climate accounting, energy analysis, city biking/mobility strategy, green procurement

Multilevel, vertical integration of local government and towns

Linked to our second conceptual assumption, in this section, we explore the vertical integration of the towns and municipalities in the national climate- and urban development policy framework (Kern, 2019). We suggest three factors that condition local town governance.

A first factor relates to the relatively decentralized, open, and well-functioning political and administrative system in Norway that provides a strong mandate and position as well as resources for the local government in responding to national climate and sustainability policies. Since the 1990s, the national climate policy has in this regard been closely tied to policies for compact town and city development related to efficient, coordinated land-use and transit oriented mobility, protection of green areas, and multifunctional and attractive, multipurpose towns (Hanssen et al., 2015; Hanssen and Aarsæther, 2018; Bergsli and Halvorsen, 2018). In practice, even if national policies provide for well-endowed municipalities, the specific policies, including for planning, climate, transport, and energy sectors contain few detailed policy requirements for local action. This leaves urban governance largely to the discretion of the municipalities and local politics. However, to continuously expand own space of maneuver in relation to core policies, each of the municipalities engages actively with regional and national public agencies in a variety of arenas and networks to

influence planning and transport policies (cf. Hanssen and Aarsæther, 2018; Hanssen & Tønnesen, 2021; Vedeld et al., 2021).

A second factor relates to the specific mandated role the three towns are granted within an important *Regional plan for land-use and transport for Oslo and Akershus* (adopted by 23 municipalities in 2015). This plan conceives each of the towns as prioritized regional growth centres linked to transit-oriented development within the polycentric spatial plan and guides the compact town development in accordance with national policies (Bergsli & Halvorsen, 2018). This plan was developed with active involvement of the municipalities in several arenas and workshops and constitutes a regional, strategic platform that reports to the steering committee of the City Growth Compact (above).

A third factor concerns the strongly centralized transport infrastructure and related finance sector for large-scale projects and local roads and public transport tied to the compact town development policy and development around public transport nodes. To enhance own influence over regional and local transport policies and blended funding, the leadership in each of the three municipalities recently negotiated joint access to the steering committee of the core regional policy platform between the City of Oslo and the regional and national transport and land-use authorities. This 'City Growth Compact' platform constitutes the key strategic arena for coordinated transport, land-use, and climate policies in the overall Oslo metropolitan area (Hanssen and Tønnessen, 2021; Official A).

Polycentric, externally focused private sector stakeholder strategy

Regarding the third conceptual assumption, the analysis reveals that different approaches are developed and operationalized by the municipal leadership to engage external property owners, developers and business associations in multiparty problem solving and development, depending on own municipal capacity and differences in the landscape of businesses, business self-organisation models and interests in forming associations and interactive relationships. The main municipal approach for bringing internal and external actors together in urban governance involves a combined use of formal planning instruments (municipal plan, land-use plan, area-based regulation plan, planning strategy) and informal, often dialogue-based, planning tools, such as town design plans and thematic strategies (climate strategy, bicycle strategy, green structure strategy) and active negotiations. The use of the informal tools are, invariably, embedded in processes of bargaining through a variety of platforms, arenas and coordination networks to reach agreed 'development compacts' ('utviklingsavtaler'). These informal tools are combined with policy design changes in planning and procurement rules to enhance climate/environment criteria in implementation.

The translation of goals into urban plans and action in already built-up areas, which is the main approach in each of the town centres, is complex and challenging, however, since existing buildings and infrastructures need to removed or altered. Moreover, the land and properties to be developed are mostly privately owned with multiple owners and user rights spread on a variety of tenants with long-term contracts (cf. Officials A, B, E). Correspondingly, the municipality controls much less land and estates than the private sector (cf. Hanssen and Aarsæther, 2018; Nordahl, 2018; Hanssen et al. 2015). The

municipality also controls only minor shares of total GHG emissions of the local town economy, while the CO2-footprint of private property owners, businesses and developers is much larger. Hence, to achieve ambitious goals the municipal leadership needs to navigate and bargain between pressures from private developers with an interest to e.g. build higher, denser and outside the 'green' urban sprawl limits to enhance own benefits - and demands by regional and national planning authorities – and citizens - to follow regional and national guidelines (Nenseth and Røe, forthcoming; Gunnes, 2018; Senhauser 2019; Pirotee 2019). They also need to push for clean construction and enhancement of zero emission vehicles and buildings among developers.

The announcement of the major town development plans outlined in the municipal master plans about a decade ago, quickly attracted local property owners and developers to come together and jointly approach the municipal leadership with own ideas and plans for housing and development, starting in Ski with the municipal plan adopted in 2010, in Lillestrøm/Skedsmo about the same time, and around 2015 in Sandvika/Bærum. In each of the towns formal area-based plans were adopted to determine the broad town center development approaches. These strategic area-based planning processes were developed in close dialogue with private property owners/developers and combined with negotiated informal 'development compacts' between associations of property owners/developer and municipal planners/leadership. These informal collaborative tools have evolved into core instruments for multiparty planning, development, investments in public infrastructure and sharing of costs and benefits and responsibility for development between public and private agents (cf. Barlindhaug et al., 2014). Thus, these arenas are critical for building coherence between municipal goals and plan and detailed, often privately prepared regulation plans and ensuring protection of green and public spaces and attractive first floors in newly erected buildings. Moreover, to facilitate internal coordination in planning, property-owners form their own associations for aligning and agreeing on co-created strategies and self-organisation, and subsequently, to co-jointly approach a large developer to pursue a coordinated approach to urban development with involvement of the municipality.

However, two contrasting governing approaches for aligning private interests are observed across the municipal cases, that illustrate how public leadership capability and contextual conditions enhance or inhibit opportunities for interaction and collaboration. On the one hand, exemplified by Bærum and Skedsmo, the leadership of the municipality itself took initiatives 'from above' to bring property owners together for joint planning and facilitate reallocations of properties and the establishment of large professional development companies to acquire enough properties and rights to initiate transformative building processes of larger areas or quarters. On the other hand, in Ski, which is the least capacitated among the three, the municipal leadership did not take similar actions to create a joint platform with relevant stakeholders, stimulating the large property owners and developers themselves to form a local association 'from below' and subsequently approach the municipality for collective negotiation and interaction .. which was '*nice, important and very reassuring for Ski'* (Official B). In each of the towns there are also established business associations (tied to e.g., green tech, oil- and energy, knowledge-based development) or more

conventional business networks that rally around town-centre development. These Chambers of commerce overlap with or relate closely to the work of property-owner associations and engage actively in town planning processes or engage in 'green transition' innovation. Private developers also use virtual platforms and informal communication channels and social media to lobby among local politicians for own interests, at times at the expense of citizen-friendly approaches.

Moreover, while both Skedsmo and Bærum municipality created triple helix platforms for multi-actor collaboration on open-ended climate-friendly town development and innovation, nothing similar was created in Ski. Bærum established in 2013 the 'Smart City Bærum' as a 'strategic partnership' between the municipality, business, and academia to enhance knowledge, policies, piloting, and technological innovation for green business development. Skedsmo likewise created the Knowledge City Lillestrøm platform as a more broad-based partnership between sustainable businesses, knowledge institutions and the municipality; with slightly less focus on climate change politics than Bærum. As suggested by a senior official in Skedsmo about 'Knowledge City Lillestrøm', which includes the secretariat for Lillestrøm Property Estate Developers:

> *'This involves a very useful way to meet the developers in large-scale meetings twice a year and with a dedicated working group to prepare matters …. We prepare the order of the day together and discuss principles about development models and use of development compacts… and … yes this is a kind of co-creation model' (Official B)*

A major estate owner and developer in Bærum underscores this 'collaborative culture' and benefits emerging in public-private encounters (Developer A):

> *'We are going to stay here and operate with long-term horizons and build quality projects taking account of BREEAM certifications in all buildings and we will build at least one plus-house, believing that is the future'. Moreover… 'We will contribute to (electric) car-pools to lower parking demands and change car usage' and 'ensure that space between buildings become public space'.*

A similar large, local estate developer in Skedsmo, on the contrary, provides a more ambiguous stand to state-of-the art urban climate policies in Lillestrøm:

> *'We here build relatively traditionally', 'We are aware of the (BREEAM) standards but do not build 'smart' buildings', yet 'we are concerned about developing liveability and achieving environmental goals' (Developer B).*

Skedsmo municipality stands out as much more conventional in the approach to collaborative innovation than 'white collar' Bærum, reflecting a 'labour-class'/Labour Party social environment which also seems to affect attitudes towards citizen participation. As stated by a local public official:

> *'Skedsmo is a fairly traditional municipality and there are not so many learning seminars here' ... and 'politicians are not*

> *so engaged in civil society meetings' …Moreover, … 'I am a bit sceptical to start with the citizens' ... 'we have not found methods that are convincing'. (Official B).*

Polycentric, externally focused citizen and civil society strategy

Based on the fourth conceptual assumption, related to the interactions of municipal agents with citizens, we find that the *organised* civil society are the most involved in core planning processes in each of the towns/municipalities much less than lay actor citizens. These involve local welfare or neighbourhoods' associations, parent associations, sports organisations, and related face book/social media groups. These groups engage and provide input mostly to conventional hearings in planning, but also engage in a variety of more innovative arenas and platforms for urban development projects. The most active involvement of *individual* citizens and community groups is in place-based densification projects or specific interventions of high local concerns. These may include change in local public infrastructures (street re-designs, restrictions on care use, parking removal) or controversies over town densifications (heights and densities, transformation of parks and squares). Citizens also come forward for piloting specific collective initiatives of concern e.g., el-bikes pilot (Sandvika/Bærum), city bike rentals (all three towns) or taking part in relevant workshops, or in youth town councils and innovative city labs. These youth councils are invariably utilized in each of the towns, mostly so in Sandvika/Bærum. Challenges remain, however, in collaborative engagement of citizens and their involvement and thus feeling of ownership to what many of them perceive as significant and not always benign transformation processes with a variety of impacts (Gunnes 2018; Seehusen 2019; Pirotee 2019). As suggested by a key planner in Skedsmo: *'Density and heights undermine living and city qualities in certain locations'* (Senior planner E). Several civic society leaders indicate that they are often not listened appropriately to in collaborative arenas, which discourage partaking. However, most citizens seem to be in support of the potential changes to more 'attractive' and compact city life and may thus not perceive the need to actively engage in collaborative planning. As suggested by an official:

> *'Overall, most people want city life and that something will happen to Ski' (Official C).*

Polycentric engagement in trans-local and transnational networks

Regarding the fifth conceptual assumption, we find that local planners take active part in several sub-regional and regional networks and platforms to promote regional coherence in land-use, transport and climate planning across levels and scales. Long-standing and intimate municipal-to-municipal networks have evolved that bring new ideas and capacities and help continuous alignment of policies and planning both at sub-regional and metropolitan scale. Moreover, each of the three municipalities actively use national networks, to lesser degree also international networks at Nordic or EU level, to inspire and learn. This is mostly so in Bærum, to some degree in Skedsmo and to the least degree in Ski. Bærum's partaking in international arenas has brought in innovative ideas about how to tackle climate/SDGs governance in collaborative manners and inspired

innovative policy designs and new co-creative practices (e.g., through involvement in the transnational climate network/Covenant of Mayors and Disclosure Insight Action (DIA)).[5]

Comparison: The Promise, Limits, and Paradox of co-creation & the 'Climate Factor'

With reference back to the five governance strategies and conceptual assumptions in the beginning of the article, in this section we provide the comparative analysis of the municipalities' urban governance and the role of co-creation in shaping such governance.

First, the comparison suggests that co-creation plays an important role as a proactive policy instrument and process, but takes different shapes, across all the five strategies identified in the analytical framework. Public leadership is found to provide both policy and institutional design support and funding for substantive co-creation, especially in Sandvika/Bærum, and to quite some degree also in Lillestrøm/Skedsmo, through the creation of new platforms or rearrangement of traditional collaborative arenas. Co-creation efforts proliferate town development planning and most creatively the rapidly evolving climate domain. These findings correspond to observations from scholarship on global cities and the importance accorded to co-creation and networked experimentations (Smeds & Acuto, 2018; Castán Broto & Bulkeley, 2013; van der Heijden, 2019; Bulkeley, 2021; Hofstad et al., 2022a). Performance is uneven, however, illustrated by the less proactive use of platforms and arenas by the Ski municipal leadership and political backing of the climate agenda, which in this regard experience specific administrative and leadership capability problems and a weak climate agency (at the time of fieldwork). As characterized by one local private developer in Ski related to an Executive committee meeting that approved three town plans in a short time span; 'politicians (in Ski) approve things they are not fully on top of' (Developer C2).

Table 6. Compact town development and climate policy responses

Town climate policies and instruments	Sandvika/Bærum	Ski/Ski	Lillestrøm/Skedsmo
Specific co-created and innovative climate policy actions	Rapid adoption of el-cars, el-car pools, car sharing, fossil free construction, city/el-bike program, networked low-carbon building projects, climate pilot projects	City bikes, charging in communities, removal of parking, mobility strategy	City bike strategy, charging in communities, removal of parking, urban redesign
GHG emission reduction from 2016 to 2018 (Environment Directorate, 2018)	Down 27%	Down 11%	Up 7%

Regarding productive co-created innovations and networked experimentations, the climate-related mobility and construction strategies provide notable examples, such as innovative el-car pools, el-scooter pilots, el-bikes, collaborative clean construction sites (helped by the FutureBuilt platform)[6], and networked CO2-plus-building projects. Moreover, the 'new' densified towns emerging clearly come with co-created attractive city qualities (for many/most citizens and businesses) and may represent paths to sustainability in relation to greater land-use efficiency and green mobility (less use of car) and thus also reduced GHG emissions (although we have not assessed this fully). The co-created innovations are most pronounced in Bærum, while approaches in Ski and Skedsmo are (still) more conventional and to greater degree public led and less co-created. We therefore suggest that, provided politico-administrative backing is present, the climate policy agenda has both strategic and transformative potentials regarding collaborative pathways and public value outcomes. To this end, as illustrated by Tables 6. and 7., Sandvika/Bærum's has both more varied and significant employment of climate responses and more strong and varied use of platforms and arenas, which when combined translate into significant greater reduction in GHG emissions between 2016 to 2018 than in the two other municipalities; down 27%, compared to down 11% in Ski and up 7% in Skedsmo (the numbers accepted at face value cf. Environment Directorate, 2018). This is mainly due to high adoption rates of el-cars and reduced fossil fuel heating in Bærum. Hence, these varied achievements suggest that the verdict is still out as to how successful such compact, collaborative urban transformations will finally be related to decarbonization and sustainability and meta-governance of the polycentric metropolitan area (Ostrom, 2010). Other studies also raise issues of compact town development risks of intra-regional competition (forms of 'free-riding'), noise and pollution of dense living, and new social sustainability issues due to building of limited multipurpose- and affordable dwellings (Bergsli & Harvold, 2018, Ministry of Local Government and Modernization report, 2018; Nenseth and Røe, submitted, Gunnes, 2018; Pirotee, 2019; Seehusen, 2019; Næss and Moberg, 2021).

Table 7. Co-creation between the municipality and private city stakeholders (variety and extent of tools and platforms employed)

Key stakeholder platforms and arenas	Sandvika/Bærum	Ski/Ski	Lillestrøm/Skedsmo
Use of co-creation tools, platforms, networked projects, and experimentations across sectors	**Strong and varied**: Active engagement in many collaborative arenas, in building, mobility, energy sector estate and town development	**Low/medium use:** No external collaborative bodies on climate, active engagement only on estate, business, and town development	**Medium/low use:** Active engagement with one main external collaborative body on energy/climate, plus on estate and town development

Second, among the five governance strategies, the whole-of-government and external stakeholder strategies dominate in each of the towns/municipalities,

reflecting on the one hand the strong role of the municipality in local development, on the other hand, the critical importance of co-creating solutions to urban sustainability with property owners and developers, on whose land most of the development will take place and whose resources and assets are critical for urban transformation to evolve. This is reflected in the town governance and planning processes, which enhance collaboration among a variety of stakeholders. Public leadership employs a hybrid mix of instruments to set the development agenda, motivate collaboration, and enhance innovative networked planning, projects, and approaches. Table 7. compares the co-creation efforts between municipal and private city stakeholders to this end, suggesting how Bærum uses a strong and varied mix of collaborative tools. In Bærum, the combined climate team has, with the active use of external stakeholder platforms (FutureBuilt, Smart City Bærum, local business associations) and an independent Climate Panel, integrated the climate agenda across own agencies, and spurred external innovation and collaborative relationships to promote innovation in mobility, buildings, fossil free construction and technology, including with innovative citizen involvement. The long-lines are important; Bærum was the only municipality among the three that was part of the Future Cities learning network back in 2008 (2008-2014). It also joined FutureBuilt ten years ago to pursue collaboration on zero-emission buildings and construction; the two other municipalities only joined recently. Moreover, Bærum recently joined the 'Race to Zero' campaign organized by the C40 city network (along with Oslo Region and the City of Oslo and two civil society organisations). Neither Skedsmo nor Ski joined this 'race'.[7]

Third, as already indicated, the whole-of-government and externally focused stakeholder strategies, including the citizen strategy, are strongly related, and interlinked in policy and co-implementation efforts. First, beyond the relationships described above, the formal and informal planning instruments at town level are intertwined and the utilization of specific collaborative platforms a main approach to negotiated development compacts and investment plans for local public infrastructure. In this regard, Bærum, on the one hand, enhanced internal institutional capacity and streamlined the whole-of-government approach, and, on the other, mobilized public-private platforms in distributed ways to leverage external resources, and create predictability and flexibility across key stakeholders (cf. Hofstad et al., 2022b).

Fourth, all three municipalities engage actively in trans-local panning and municipal-to-municipal and regional networks to defend own compact town development goals and plans and adapt local policies. Their active involvement in sub-regional and regional platforms enhances networks and synergies of the wider metropolitan governance (cf. Atkinson, 2019; Ostrom, 2010). They also engage in multilevel negotiation in relatively similar and intense manners, for example, on transport issues related to possible blended funding with the state of large-scale projects and/or restructuring of local county roads to enhance own mobility policies (Hanssen & Tønnesen, 2021).

Finally, regarding the external citizen participation strategy, none of the municipalities have utilized citizen involvement to its full extent and firmly integrated this into an overall 'collaborative approach', which may reflect that their preoccupation has been with addressing 'low-hanging fruits' related to

policy domains such as mobility, construction and to some degree energy. These rather technical and technology dependent policy field may not have been perceived to call for in-depth citizen participation, but more involvement of professional stakeholders. With a few exceptions, citizen participation has followed traditional, instrumental patterns, and, as such, relatively traditional bureaucratic leadership strategies and institutional instruments may thus still dominate in all the towns/municipalities alongside innovations in co-creation. However, the specific strategy for citizen participation adopted by Bærum, inspired by its involvement in an EU climate network, carries some promise. It includes innovative elements, such as a climate communication program, citizen panels, youth council, and City Labs linked to mobility, biking strategy and the evolving climate agenda's focus on consumption and citizen behaviour.

Conclusions: Takeaway for Theory and Policy

In summing up, the comparative analysis suggests that extensive co-creation platforms, arenas and networks are evolving as proactive policy instruments across all the five governance strategies in each of the municipalities, linked to the emergence in each of the towns of new and innovative planning platforms, triple helix platforms, business associations, city labs, climate panels and municipality-to-municipality networks conditioned by specific social contexts, politico-economic capacities, and wider governance arrangements. Hence, the article provides evidence of the specific dynamics of co-creation processes within the realms of urban climate- and sustainability policies. The findings thus underscore that small towns 'typical' Scandinavian metropolitan fringe towns, operate as agents of collaborative governance, much along the way found as a strategy by global cities (Hofstad et al., 2021b/2022a; van der Heijden, 2019). However, there are qualitative differences in the forms and significance of co-creation as a strategy and how successful each of the cities are in pursuing the approach.

Performance across the municipalities is uneven, and a major takeaway from the empirical findings with implications for co-creation theory relates to an observed *co-creation paradox*. The promise arising from the widespread support of co-creation notwithstanding, we find that the municipal organisation most in need of complementing own limited capabilities through co-creating ideas and resources with local businesses and citizens, possesses the least capacity and political leadership clout to do so. Hence, we propose that an organisation with the most need for co-creation may have least capacity to do so. Varied performance also raises issues of how effective local municipalities are in creating collective institutions for meta-governing a polycentric metropolitan area without appropriate support and recognition of higher-level authorities (Atkinson, 2019).

Moving beyond traditional bureaucracies in own organisation towards productive forms of co-creation, which is deemed essential to engage with local stakeholders and leverage required collective resources, depends on new forms of co-creational public leadership and a certain administrative capability. This is underscored by the Sandvika/Bærum case. Political backing by a 'blue-green' political coalition was also decisive. This case, furthermore, suggests that co-

creation is likely to be most robust and productive if there is active and strong *mutual* engagement between public agents and private/civic actors i.e., it is facilitated by an active business community and presence of community/social capital (Westman et al., 2020). This is what also enhances the local ownership to city projects and the democratic potentials of co-creation (Sørensen et al., 2021). Active and constructive initiatives taken by external estate developers, such as occurred in Ski, to some extent can compensate for limited capabilities in the municipality to initiate co-creation. Hence, while initiatives for co-creation proved most effective when supplied 'from above', as in Bærum and to some extent Skedsmo, it can also fruitfully evolve 'from below' from both civil society and business agents. An hypothesis arising from comparing all the three cases worth pursuing in further research is that leadership is the strong variable in explaining collaborative public value outcome in the encounters at the interface between public and private agency, more so than administrative capacity (cf. Strockosch & Osborne, 2020; Hofstad et al., 2021b/2022a).

A recent review of urban climate governance in other small and medium-sized cities supports our main findings and suggests that municipal performance is substantively influenced by networking and cooperation with other cities and platforms (Wagner & Growe, 2021, cf. also Russel & Christie, 2021). The findings also underscore the transformative potential of the climate agenda, due to its collective, cross-cutting, and strategic features in promoting and mediating co-creation. The strategic and connected turn observed by scholars in climate politics and governance (Bulkeley, 2021) thus corresponds to similar strategic turns described in collaborative governance and theory (Ansell and Torfing, 2021) as well as in planning theory and practice (Albrechts, 2006; Healey, 2007).

Finally, a word of caution; despite considerable co-created achievements, sustainability issues invariably linger on in each of the towns as the issues tend to change character with new evolving development projects and thus continuously changing constellations of relevant or impacted actors (Campbell, 2016). Hence, co-creation is not likely to represent a panacea for low-carbon, sustainable town development i.e., a policy instrument that 'solves' sustainability issues. These issues may simply not be possible to 'solve'. However, co-creation does seem to offer a variety of policy and governing instruments that can play a core role in a mixed tool-box for town leadership to further sustainable urban policies (Hofstad et al., 2022a).

Regarding further research, we suggest a focus on what *new public leadership types and mentalities* are needed to further push bottle necks, engage in collaborative platforms, manage co-creation processes, mediate conflicts, and deal with the potential 'dark sides of co-creation' - as committed collaborative capacity builders.

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Interviews

Key official A, Sandvika/Bærum
Key official B, Lillestrøm/Skedsmo
Key official C, Ski/Ski
Private developer A, Sandvika/Bærum
Private developer B, Lillestrøm
Estate developers C1 and C2, both Ski

Appendix 1. General overview of key themes in the interview guide:

- Background on the role, department, and main tasks of informant
- Key climate/sustainability goals and how they were formed interactively
- Key internal policies, structures and organizational changes and horizontal coordination tools
- Internal leadership, vertical interactions and integration; support from politico-administrative leadership and facilitation of cross-sector collaboration
- Formal and informal planning, guidelines, procedures and implication for collaborative or co-creative planning
- Key actors involved in governance and planning and climate strategy development; key arenas and platforms for stakeholder collaboration
- Multilevel interaction of planners and leadership with regional planning and state policies and agencies; upward bargaining and forms of local adaptation
- Forms of collaboration with developers and private business
- Forms and intensities of involvement with citizens and civil society
- Engagement in and benefits from trans-local networks and collaboration and transnational collaboration
- Drivers and barriers in local governance, leadership and organization

Notes

1. Stemming from research on the European Union, multilevel governance was originally described as a system of continuous negotiation between nested governments to solve interdependent policy problems, referred to as Type 1 by Hooghe and Marks (2003). In contrast, polycentric governance, denoted as Type 2 by Hooghe and Marks (2003), originates from studies of governance arrangements in the United States and denotes a system that spans multiple spheres of authority, sectors, and scales with a plethora of different actors and institutions that are simultaneously involved in making and implementing policy (Ostrom 2010; Jordan et al. 2018; van der Heijden 2019).
2. A ‘collaborative platform’ is defined as organisations or programs with dedicated competences and resources for facilitating the creation, adaptation and success of multiple or ongoing collaborative projects or networks (Ansell and Gash, 2018:16).
3. https://www.fhi.no/publ/2019/folkehelseprofiler-2019/
4. https://valgresultat.no/?type=ko&year=2015, https://valgresultat.no/?type=ko&year=2019

5. https://www.cdp.net/en/info/about-us/disclosure/disclosure-insight-action
6. https://www.baerum.kommune.no/politikk-og-samfunn/samfunnsutvikling/klimaklok-kommune3/futurebuilt/
7. Only following the recent merging of the two municipalities with two neighboring municipalities (from 2020 onwards), to form the municipality of Lillestrøm and Nordre Follo respectively, did they 'follow suit'. This reflects that new ideas and ambitions for climate action emerge with larger municipal size and capability (Planner B, C).