

# Climate targets as more than rhetoric: Accounting for Norway's Zero Growth Objective

Håvard Haarstad<sup>1</sup>

Siddharth Sareen

Tarje Wanvik

University of Bergen, Norway

University of Stavanger and University of Bergen, Norway

Bergen Municipality, Norway

## Abstract

Climate-related targets for cities abound, but it is unclear how important they are in driving actual transformations. Scholars have often taken a skeptical view of official climate discourses, including their ambitious targets, and instead turned their attention to experimentation, innovation and civic action – colloquially termed 'real action.' In this article we try on the opposite view. Contributing to 'speculative political ecology', we argue that climate-related targets, even those without hard policies directly attached to them, can render climate change more governable and actionable. In a fragmented, polycentric and dispersed governance landscape, the immutability of a 'hard' number can create coherence, direction and measurability to policy action. We examine a particular target, and its associated governance instruments, which has arguably had a transformative effect on urban policy. Our empirical focus is Norway's Zero Growth Objective in urban transport policy. We follow the target from its first formulation as a soft goal around 2006 and until 2019, by when it had materialized as a hard target shaping funding streams and concrete policy interventions, and most likely, emission levels. Arguably, it has been a highly effective frame for policy.

**Key words:** climate change, targets, transport policy, immutable mobile, Norway

## Résumé

Il existe de nombreux objectifs liés au climat pour les villes, mais il n'est pas évident de savoir dans quelle mesure ils sont à l'origine de transformations réelles. Les chercheurs ont souvent adopté un point de vue sceptique à l'égard des discours officiels sur le climat, y compris leurs objectifs ambitieux, et ont plutôt porté leur attention sur l'expérimentation, l'innovation et l'action civique - ce que l'on appelle familièrement "l'action réelle". Dans cet article, nous essayons d'adopter le point de vue opposé. Contribuant à l'"écologie politique spéculative", nous soutenons que les objectifs liés au climat, même ceux qui ne sont pas directement liés à des

---

<sup>1</sup> Håvard Haarstad is Professor at the Department of Geography, and Director for the Centre for Climate and Energy Transformation (CET) at the University of Bergen, 5020 Bergen, Norway. Email: [havard.haarstad@uib.no](mailto:havard.haarstad@uib.no). His research is broadly focused on social change towards sustainability, particularly in relation to cities and climate change. Siddharth Sareen is Professor in Energy and Environment at the Department of Media and Social Sciences at the University of Stavanger, 4036 Stavanger, Norway. He conducts research on the governance of energy transitions at multiple scales and coordinates the Sustainability Transformation programme area. He is also visiting professor (Professor II) at the Centre for Climate and Energy Transformation, University of Bergen. Tarje Wanvik is Director for the Planning and Building Agency of Bergen Municipality. In his academic career, he has focused on social and environmental conflicts around climate transformations. Acknowledgements: the authors acknowledge support for this work through two projects: *Responsive Organizing for Low Emission Societies* (ROLES), funded by JPI Climate (SOLSTICE call), and the Research Council of Norway (grant no. 321421), and *Cities confronted by protests: Democratic governance for efficient and socially just climate transformation* (DEMOCLIM), funded by the Research Council of Norway (grant no. 302307). In Dylan Harris and Dan Santos (eds.) 2023. "Speculative and experimental political ecologies" *Special Section of the Journal of Political Ecology*, 30.

politiques concrètes, peuvent rendre le changement climatique plus gouvernable et actionnable. Dans un paysage de gouvernance fragmenté, polycentrique et dispersé, l'immutabilité d'un chiffre "concret" peut créer une cohérence, une orientation et une mesurabilité de l'action politique. Nous examinons un objectif particulier, et les instruments de gouvernance qui lui sont associés, dont on peut dire qu'ils ont eu un effet transformateur sur la politique urbaine. Notre étude empirique porte sur l'objectif de croissance zéro de la Norvège en matière de transports urbains. Nous suivons cet objectif depuis sa première formulation en tant qu'objectif non contraignant vers 2006 et jusqu'en 2019, date à laquelle il s'est matérialisé en tant qu'objectif contraignant façonnant les flux de financement et les interventions politiques concrètes, et très probablement les niveaux d'émission. On peut dire qu'il s'agit d'un cadre politique très efficace.

**Mots clés:** Changement climatique, objectifs, politique des transports, mobile immuable, Norvège

## Resumen

Los objetivos relacionados con el clima para las ciudades son numerosos, pero no está claro si estos objetivos están impulsando transformaciones. Los estudiosos han adoptado a menudo una postura escéptica ante los discursos oficiales sobre el clima, incluidos sus ambiciosos objetivos. En su lugar, han centrado su atención en la experimentación, la innovación y la acción cívica, lo que coloquialmente se denomina "acción real." En este artículo adoptamos un punto de vista opuesto. Contribuyendo a la "ecología política especulativa", sostenemos que los objetivos relacionados con el clima hacen que el cambio climático sea más gobernable y accionable. En un panorama de gobernanza fragmentado, policéntrico y disperso, la inmutabilidad de un número "concreto" puede aportar coherencia, dirección y mensurabilidad a la acción política. Examinamos un objetivo concreto, y sus instrumentos de gobernanza asociados, que ha tenido cierto efecto en la política urbana. Se trata del Objetivo de Crecimiento Cero de Noruega para la política de transporte urbano. Seguimos el objetivo desde su primera formulación como un objetivo blando en torno a 2006 y hasta 2019, cuando se ha materializado como un objetivo duro que da forma a flujos de financiación e intervenciones políticas concretas, y muy probablemente, a los niveles de emisiones. En nuestra opinión, ha sido un marco político muy eficaz.

**Palabras clave:** cambio climático, objetivos, política de transportes, móvil inmutable, Noruega

## 1. Introduction

What is the point of climate related targets, when they are seemingly formulated without a direct link to concrete action? The climate policy discourse is rife with ambitious targets, such as Net Zero<sup>2</sup>, and it is highly unclear what these ambitious targets mean in practice. To some, these targets are nothing less than smokescreens, creating the illusion of drastic action, while the actual achievements in terms of change in practices and ultimately, a reduction in emissions, are faint.

This article takes the opposing view on these targets. What if even soft climate policy targets can play important roles in mobilizing hard policies and actual achievements? What if soft climate targets can set in motion political and governance processes that, over time, structure concrete action? What are the mechanisms by which that can occur? Although we want to be careful of arguing for greenwashing, soft targets and rhetoric without action, particularly given the urgent nature of climate action, we nevertheless take the point of departure that soft targets should not be dismissed out of hand. In this way, we hope to contribute to a speculative political ecology that not only critiques existing regimes of governance, but also aims to tease out ways in which fragments of governance arrangements existing somewhere can help unlock shifts towards sustainable transformation.

The Norwegian Zero Growth Objective was originally formulated as a soft and vague target, but as we elaborate below, it hardened over time. The target, formulated in 2006, states that *all growth in personal traffic in the largest cities will be covered by public transport, walking and cycling*. The "zero growth" aspect implied in this is of course that there will be no growth in private car traffic. Over the course of a decade or so, it has arguably played a substantive role in transforming the way that the country's major cities facilitate transport and mobility, to the extent that it has become a key point of contention by political actors seeking to delay strong action.

---

<sup>2</sup> <https://netzeroclimate.org/>

Cities are particularly relevant for the study of the relationship between target-setting and concrete action. They are certainly ambitious in setting targets. In recent years, cities all over the world have set ambitious and celebrated goals related to a range of sustainability challenges such as emission cuts, renewable energy use, energy efficiency, electric vehicle uptake, growth of bicycle use, and more. More than 7,700 local and regional authorities have, at the time of writing, signed up to the Covenant of Mayors and thereby committed themselves to achieving and exceeding the EU climate and energy targets. The Covenant of Mayors initiative is one of many examples of how governance entities are organizing themselves in networks in rallying around particular targets.

A key question, then, is whether and how this targeting and goal-setting is turned into concrete action. In many cases, it is tempting to see the current practices of ambitious target-setting as unconnected to any realistic program of delivering on what they promise. Ambitious target-setting thereby becomes an exercise of vanity, wherein cities compete for the most ambitious targets but not the most transformative policies. Understood in this sense, targets help politicians appear to be doing something when they are actually not, thus 'sustaining the unsustainable' (Blühdorn 2007). Several convincing accounts support this view. Both Swyngedouw (2010) and Methmann (2010) have argued that climate governance and its surrounding discourse involve complex managerial and institutional configurations that produce the impression of action, without actually changing the basic structures and processes that are causing the climate crisis. In other words, scholars have argued that such targets are part of a machinery that produces the perception that something is happening, while in actuality it is not, constructing speculative futures that depoliticize and prolong present political ecologies, as oxymoronic self-*unfulfilling* prophecies (contra Merton 1948). Likewise, scholars characterize adaptive governance measures (such as targets and agreements) as 'inherently optimistic' (Cleaver and Whaley 2018) and point out that such approaches are conditioned by underlying power structures (Westskog *et al.* 2020). It is hard to find studies that actually contradict this, that show the effectiveness of climate targets. Notably, Leffel (2022) does find that network membership is related to climate mitigation achievements by cities, which suggests target-setting may have value and underscores the need for studies that report on its effectiveness at the urban scale.

This article aims to unpack the experiences in a case that arguably did have real-world effects, the Zero Growth Objective for Norwegian cities. The empirical material consists of a combination of document analysis, interviews and participant observation. We discuss the emergence and development of the target over time, emphasizing its increasing hardening through increasingly clear formulation, its legitimation through authoritative action, and eventually its attachment to funding streams between the national state and city governments and thus to effective institutionalization. In turn, the target has helped render transport governable for climate policy (cf. Jensen *et al.* 2017 on bicycles, calculative practices and urban environmental governance), cohering a range of complex policy mechanism around a single, easily legible target. More broadly, we argue that ambitious targets have an important role to play in urban transformations, one that can be attained if they are robustly tied to harder policy mechanisms.

The article proceeds as follows. Section 2 provides theoretical background, situating our contribution in critical literature on urban policy formation and climate governance. It then outlines an approach to understand the potential transformative role of targets, drawing on discussions on the power of quantification. Section 3 gives a short overview of the empirical and methodological basis for the claims in the article. Section 4, the main analytical section, outlines the emergence and development of the Zero Growth Objective for Norwegian cities. Section 5 concludes by discussing the contribution of this analysis for a speculative political ecology of target-setting in climate and sustainability transition politics.

## 2. Assembling effective climate policy

### *Targets as rhetorical practice*

Policies have to be understood in the broader context in which they are developed, argued for, decided and implemented. We do not aim to look for "effective" policies in the sense of interventions that are assumed to have certain effects detached from contexts, and that can be easily transferred to other settings (cf. Bimer *et*

*al.* 2009). The policy mobility literature has shown how policies always change when they "travel", because are often highly dependent upon the contexts in which they were developed (Clarke 2012; also see van Ewijk *et al.* 2015). Building on insights from this approach, we situate this study in a relational approach to urban transformation and governance (Grandin and Haarstad 2021), where change in cities is not simply a result of the implementation of particular policies. It is an outcome of interconnected processes within and beyond particular cities, involving different types of actors, networks and infrastructures (McCann 2011; Haarstad 2016). Change is a result of how particular triggers interact with their surrounding context, and how they may serve to assemble chains of action that lead to deeper and more fundamental forms of change (Haarstad and Wanvik 2017). Here the *politics* of political ecology are relationally reproduced through technologies such as metrics, and carried through artefacts such as transport policies and reports by engaged, situated actors. Metrics thus have powerful performative potential when enrolled and enacted within power structures.

The question here is whether climate targets can, under certain conditions, play the role of triggering change, as veritable catalysts, or as 'slow-release' policy levers. Scholars have often taken a skeptical view of official climate discourses, including their ambitious targets. For good reason, too. Hegemonic agents have been able to postulate almost any policy – free trade, continued oil exploration, economic growth – as part of the solution to the climate problem. A similar critique has been made against the entire sustainable development discourse (While *et al.* 2010).

At the urban scale, there are also clear discrepancies between the rhetoric and reality of climate targets, as studies cited in the introduction underscore. In rhetorical terms, cities generate and circulate high-profile stories and "best practice" narratives that highlight claims about achievements and successes (Bulkeley 2006; McCann 2011). In terms of substantive change, however, real effects may be more elusive. Grandin and Sareen (2020, p.72) describe urban governance arrangements as "often characterised by voluntary action, weak institutions, non-binding commitments and uncoordinated efforts", and argue that it can be difficult to determine the substantive and enduring transformative impact of their interventions. More concretely, researchers have also criticized the targets that cities operate with. Leal and Azevedo (2016, p.427) reviewed the targets for local energy planning for a number of case cities, and found them to show a lack of standardization of methodologies, "leading to a diversity that may not only hamper the comparison between different municipalities' action but also prevent a consistent assessment of their global impact." In similar vein, Kramers and co-authors (2013) found that behind relatively similar targets lie a wide variety of accounting methodologies, system boundaries, timeframes and emission source inclusion/exclusion rationales. Moreover, there is limited awareness of these methodological limitations among city administrators, who exhibit wide variation (see Berker and Larssæther 2016).

In short, one can find grounds for deep skepticism against the practice of target-setting in the climate governance literature, including at the urban scale. In an abstract sense, these targets can be seen as part of a post-political and techno-managerial climate governance discourse that simultaneously appears climate-friendly *without* addressing the underlying contradictions that produce the climate problem in the first place. Urban target-setting can be seen as a part of the circulation of "best practice" and rhetorical competition to be *the most sustainable city* (Holgersen and Hult 2020), while the actual commitments are mostly non-binding and voluntary.

#### *Targets as triggers for action*

At the same time, it is possible to approach the problematic from the opposite angle. Despite acknowledging the dangers of rhetorical practice, we can consider whether a target can operate as a trigger or policy lever that mobilizes substantive change in cities. If this is the case, what are the key mechanisms?

There are several literatures to point to in outlining a rationale for expecting that climate-related targets, as a technology of speculative political ecology, may have a substantive effect on the real world. The most well-known climate related target, the 2 degree target long at the center of climate policy, is the most prominent example of a target with substantive rhetorical weight, and now a pillar of the Paris Agreement reached in 2015 as well as other key policy agreements and proposals. The target states that global warming should not exceed 2 degrees Celsius compared to the preindustrial era. The emergence and gradual prominence of the target is

instructive as an exemplar of the process behind the target-setting. As per Randalls (2010), the 2-degree target was first proposed by the European Union in 1996, with support from environmentalists and scientists. Even though the figure itself makes significant assumptions about ecological impacts and costs, there was little explicit scientific evidence for why this particular target was chosen. A range of critics from scientific experts to economists have argued that the target is an infeasible and inappropriate way of framing climate policy, and indeed many policy actors point to a 1.5-degree target instead. Nevertheless, various high-level policy statements, from the EU, G20, the COP conferences, and so on, have repeatedly reaffirmed this numericized boundary of dangerous climatic change. Randalls suggests that it has served as a heuristic to focus the attention of policymakers, in a way that offered an expected goal which could help justify costly interventions. At the same time, he suggests that it may also have stimulated a tedious debate about desirable levels of climate change, distracting attention and pressure from the process of reducing emissions. Other notable supra-national examples include estimation of shale gas resources (Kama and Kuchler 2019) and of the "Arctic edge" (Steinberg and Kristofferson 2017), with implications for extraction.

Despite the potential downsides, it does appear that at least the practice of having a target has focused the attention of policymakers. In psychology, literature on goal setting and how it influences performance focuses on the individual level. For example, Locke and Latham found that specific, difficult goals consistently led to higher performance than simply urging people to do their best (Locke and Latham 1990). They conclude that when people are asked to do their best, they do not do so. Without a concrete goal, individuals can assess their behaviour without any external referent, which leads to a wide range of acceptable performance levels. That is to say, without specific concretized goals, people accept sub-standard performance and thus achieve less.

There are contributions in political science and public administration that use this goal-setting theory to understand urban climate governance. Hofstad and co-authors (2020) argue that goal-setting processes are important for cities because they activate a "multitude of internal and external actors for shared goals and purposes." They see goal-setting in cities as not just an internal process, but potentially a process that mobilizes action more broadly. Cities differ on how they structure the goal-setting processes, and Hofstad and co-authors separate between an inclusive versus an efficiency-oriented approach. The inclusive approach contains ambiguous all-encompassing climate goals, consensus-oriented political decision-making, a broad administrative entity with a weak mandate, and close and long-term stakeholder collaboration. While an efficiency-oriented approach, which is largely instrumental, includes clear and problem-oriented climate goals for both goal-effective and efficiency-oriented political decision-making. The latter typically involves a special-purpose administrative entity with a wide and clear mandate and targeted and temporary stakeholder collaboration brought together to address specific problems or subject matters (Hofstad *et al.*, 2020).

#### *Targets as "immutable mobiles"*

In developing our own approach, we build on these perspectives but seek to broaden the scope significantly. Climate targets, we would suggest, can be seen as having broader effects than simply providing benchmarks for individual institutions. Our view of politics is, in line with Beland and Cox (2000), not that of a contest between people who have clear and stable interests and strategies and goals for pursuing them, but rather of a struggle over interests among people and institutions motivated by myriad, oft-conflicting ideas. Ideas are pivotal in shaping politics and institutional practices. Targets can be understood as condensed ideas, discourses or norms, and studied by scrutinizing how they frame a particular problem, legitimize particular courses of action, enable and constrain agency, and create political opportunity structures for actors – what sociologists and science and technology studies scholars have established as practices of 'qualculation' (Cochoy 2002).

We draw here on a view of assemblage, or bricolage, as a process for how targets play into political change. In one account of this view, Carstensen (2011) describes how political actors maneuver pragmatically, putting together ideas that may not be logically compatible but rather answer to particular political and cultural logics. Thereby, "agency often takes the form of bricolage, where bits and pieces of the existing ideational and institutional legacy are put together in new forms leading to significant political transformation." In a broader

sense, beyond the agency of individual actors or institutions, there emerges a view of climate governance as networked, polycentric and pragmatically assembled (Jordan *et al* 2015; Andonova *et al* 2009; Wanvik, 2018). According to Jordan and co-authors (2015), social scientists have started to chart the changing landscape of climate governance, with its increasingly novel and complex forms of policy mechanism, trading schemes, incentives, rules and practices. They argue that this emerging polycentric governance illustrates the potential of more pluralistic forms of governance, combining networks polycentrism while still ontologically underpinned by a top-down and state-centric hierarchy. This is echoed in urban studies of sustainability and climate governance, which increasingly underscore the pluralist, incremental, experimental, and dispersed nature of urban interventions (Grandin *et al* 2018.).

We would hold that this 'bricolaged', assembled view of governance, and in particular climate governance, constitutes an advantageous starting point to understand how targets operate – compared to the perhaps more traditional structuralist view of targets as understood in the context of an individual organization and its performance. Governance is in fact conducted through interacting actors within complex configurations of power and authority in multilevel, polycentric governance systems. Steering is accomplished through information sharing, the spreading of norms, capacity building, and other diffuse processes (Andonova *et al.* 2009; Blondeel 2019). Indeed, Hughes *et al.* (2020) point to the increasingly data-driven nature of urban climate governance as instituting a particular regime of accountability.

In this context, climate targets can embody norms and signals, and they can mobilize and cohere governance efforts by "travelling" across governance networks. The policy mobility literature, typically focused on urban policy arrangements, has focused on the mobile aspects of policies. This literature is particularly instructive for our purposes in the way that it shows how local policy regimes are co-constructed with ideas, discourses – and targets – from elsewhere (Peck and Theodore 2015). To Tememos and McCann (2012), mobile policies act as discursive frames that carry certain definitions of what local governance problems and the realms of possibility in which solutions might be constructed. In the process of travelling from certain policy contexts to others, the specificities and contingencies of policies need to be "polished away" in order to make them sufficiently generalized to enable them to travel. They argue that the process of creating equivalence between policy contexts, so that policy prescriptions are similar between them, formulating them as "best practices" for example (Bulkeley 2006), is a powerful act of translation. It requires expertise and familiarity with a specialized, technical or abstract language, and typically with *calculative techniques like indicators or benchmarking* (Tememos & McCann, 2012). These calculative techniques constitute policy objective as a global form, appearing as universal to specific places (Prince 2010).

In climate policy, targets are arguably a particularly powerful calculative technique. It reduces the complex formulation of diverse, localized pathways for reducing climate emissions to a concrete, metricized number. The target becomes something similar to what Latour (1987) refers to as an "immutable mobile" – an inscription of complex reality into a movable artefact, such as a map or a picture, which has wide circulation. Compared to many other forms of policy, such as the complex sustainability interventions examined by scholars in the policy mobility tradition, a quantified target has an immutability about it that does not change during its travels from one institutional or geographical context to another. Think of the 2-degree target discussed above. Once it has been formulated, there is less opportunity for it to be altered or subverted. Implementation and translation into concrete action are still, of course, subject to fundamental manipulation. But the number is there.

Certainly, it comes as no surprise that quantifying a phenomenon impregnates it with a particular type of force, transforming it from the particular and provincial into the language of the universal. Metrics make the unknown *knowable*, and thereby, *governable*. Foucault showed how scientific knowledge – where metrics, quantification and formalization of knowledge play a central role – has provided the foundation for the birth of the modern state (Foucault 1991). Foucault's work showed how scientific knowledge advanced our ability to govern society and its individuals. In this sense, metricizing the climate and its politics plays into the attempt of modern society to make nature and ecology governable, turning it into a domain "accessible only with the aid of science and technology" (Jasanoff 2010).

Climate change is knowable and measurable in quite precise ways, through global aggregate temperatures traced far back in time, parts per million (PPM) of CO<sub>2</sub> in the atmosphere, carbon budgets, among many others. Measures to deal with climate change are also knowable and measurable in detailed ways, through percentage of rise in renewable energy uptake, energy efficiency measures, numbers of electric vehicles sold, and so on. This means that policies can be assessed, scenarios can be crafted, decision-makers can – in principle – be held to account. And in the seductive ways that metric work in governance, targets may work themselves into mindsets and documents even after they have shed their methodological and substantive attire.

Some have argued that due to this metric legibility of carbon, climate change is actually more open to politicization than the sustainable development discourse was. Sustainable development has also been subject to quantification (Miller 2005), but has lent itself to incorporation in the growth paradigm and neoliberal modes of governance. Climate change is even more amenable to quantification, argue While and co-authors (2010, p.77). They hold that the discourse of carbon control may well "represent a harder edge to state environmental regulation via *non-negotiable target setting...*" [italics ours]. Shifting focus from the ambiguous and co-optable idea of sustainability towards the more measurable problem of carbon control, they argue, opens for a harder type of regulation. For urban governance, this could mean that climate politics and the target-setting it involves, could open for challenging mainstream modes of urban development in ways untenable under sustainable development (While *et al.* 2010). The ranking of cities on the basis of carbon emissions is becoming part of the competition between cities for investment capital, headquarter locations and attraction of educated workers (Jonas *et al.* 2011). In other words, carbon control and its quantified targets are becoming part of the calculus behind "rational" urban governance. Targets are hence doing the work of "cohering" a diverse set of loosely connected governance efforts across material and social domains (McGuirk & Dowling 2021; Grandin, forthcoming).

Succinctly put, there are good reasons to consider climate targets as something more than simply rhetorical practice devoid of concrete consequence. As the various literatures and perspectives outlined above suggest, there are powerful mechanisms by which the quantified climate target may travel across networks and institutional contexts, and legitimize practices that may advance sustainable energy transitions. The next section examines a concrete chain of events to illustrate how this may occur. While cursory, the case study identifies certain *mechanisms* for how climate targets are legitimized, by scrutinizing the Norwegian Zero Growth Objective for urban car transport.

### 3. Methods

We approach Norway's *Zero Growth Objective* for car transport in urban areas as a case to understand the mechanisms for how climate-related targets work their way into concrete policymaking. The Zero Growth objective states that all growth in private traffic in cities will be in the modes of walking, cycling and public transport – in other words, there will be no growth in private car use. The case is of particular relevance because, arguably, it is an originally vague target that over time, roughly between 2006 and 2018, was translated into concrete policy action, an instance of a speculative political ecology technology serving as a *self-fulfilling* prophecy. The legitimation of the target has been incremental and involves multiple actors with divergent interests. Still, the progression from abstract target formulation towards a tangible foundation for concrete policy implementation is traceable by examining a series of key documents over time. When we discuss local implementation we focus on the city of Bergen, arguably the city and region where the target has been most fiercely contested.

To document this, this article is based on several sources of data. The analysis rests in large part on a document analysis, covering major policy documents related to climate policy and the transport sector (White Papers, the National Transport Plan, in particular). In analyzing these documents, we read them for how they discussed the emergent Zero Growth Objective, emphasizing the context in which it was discussed. We also conducted three key informant interviews with governance agents with close familiarity with negotiations around the target, and two dozen additional interviews with a broader focus on socially inclusive urban transport transition governance in Bergen (during late 2020 and early 2021) that provide contextual undergirding. One of the authors also has experience as Political Advisor for the Commissioner for Urban

Development in Bergen, and as the Director of the City's Planning and Building Agency, and this experience is used here to ground our analysis. Finally, we have used secondary literature and followed the public debate on urban development and the Zero Growth Objective in Norway over a number of years.

#### 4. Following the target – Norway's Zero Growth Objective

##### *Making transport governable for climate policy*

The contours of the Zero Growth Objective can be traced back at least to the 2006 White Paper on Norwegian Climate Policy [Meld. St. 34, 2006-2007]. There the government put forward some initial goals for climate related policy in the transport sector, writing that there is a "need to shift the use of transport modes towards public transport, walking and cycling." The overarching reference for this White Paper was the international 2-degree target for climate change, officially adopted by the Norwegian government the year before. As we discuss above, the 2-degree target is somewhat arbitrary and has been source of controversy (Randalls 2010). Yet in this White Paper, the 2-degree target is referred to here in a way that signals a high level of ambition and points to the global urgency of acting on climate change. In the context of this first White Paper back in 2006, the 2-degree target provides the framing for Norwegian policy, including the Zero Growth Objective.

That formulation – "shift the use of transport modes towards public transport, walking and cycling" – can be found in all the key national climate policy documents from then on. The 2008 Climate Accord between all political parties in Parliament minus one, the 2012 White Paper on Norwegian Climate Policy and the 2012 Climate Accord all use that same formulation with miniscule variations. The key formulation – "public transport, walking and cycling" [*kollektive transportmidler, sykling og gange*] first appears as a casual one, placed in a sentence about general aims of climate policy in the transport sector, alongside other similarly vague phrases. But the repetition across several key documents gradually turns it into an *immutable mobile*, that travels across the policy documents.

A notable aspect of this journey is that it appears in documents that are increasingly binding. The initial White Paper in 2006 is mostly a non-binding outline of possible and intended policy formulation, for which it is uncertain whether the Government has support in Parliament. As a parliamentary system of government, national policy formulation in laws, national budgets, the national transport plan and so on must secure a majority in Parliament. Therefore the inclusion of a version of the formulation ("growth in public transport at the expense of car traffic") in the 2008 Climate Accords is significant. Here a broad coalition of political parties in Parliament, constituting a significant majority, formed a binding agreement. It is also attached here to a funding stream, in the sense that the agreement signals that increasing public transport at the expense of car traffic will be a condition for financial support to cities.

The first time the formulation is explicitly formulated as a target is in the 2012 White Paper on Climate Policy ("The Government has the goal that the growth in personal traffic in metropolitan areas will be by public transport, cycling and walking"). The 2012 Climate Accords, passed by the majority in Parliament, strengthened this formulation even further, particularly by attaching it to funding streams in a stronger way, mandating that funding to cities will be conditional upon the cities documenting an increase in public transport "at the expense of the car."

Visible here is increasing political support for climate action, and an increasingly precise formulation of policy instruments. The politicians are trying to find appropriate balances between local autonomy and national mandates. It seems that the aim of articulating a national goal for all cities – no increase in private car traffic – and then attaching funding to that goal, is a pragmatic way to reach cross-ideological support. The national goal is clear, cities gain something by reaching it, and the concrete measures are to be decided locally.

But the early consensus around this target was not only a matter of pragmatism. Around the same time as the 2012 Climate Accords, a working group of bureaucrats drafting the National Transport Plan put forward their suggestion for the plan. They proposed creating a separate transport strategy for the metropolitan areas, and in their discussion of this strategy, we can find the same key formulation found in the documents pointed to above – the growth in private traffic must be covered by public transport, walking and cycling. It



simultaneously coined this "Nullvekstmålet" – the Zero Growth Objective. According to the leader of the working group, they had worked for a long time on the precise formulations. The working group leader has been quoted saying "We wanted to find a target that was easy to measure, that would be ambitious and not least reachable" (quoted in Strand, 2016).

A similar target had been around for a while, and this played a role in the formation of what came to be known as the Zero Growth Objective. In 2002, the Zero Casualties Vision migrated from Sweden and into Norwegian road planning activities. The Zero Casualties Vision was both an ethical guide and a direction for further traffic safety work in Norway. This meant, among other things, that the transport system, means of transport and regulations for behavior must be designed in a way that promotes safe behavior among road users, and contributes as much as possible to human error not leading to serious injuries or death. Inspired by this, the head of the National Road Authority, Terje Moe Gustavsen, formulated a new target in the planning process of the National Transport Plan (NTP) around 2005. A senior local government official taking part in the negotiations said:

We discussed the (Zero Growth) Objective in the treatment of the NTP at that time, but it did not take effect until much later. I was told that the target was first presented by the director himself. He was that kind of leader, wanting easy, measurable targets, and he was directly comparing the Zero Growth Objective with the Zero Casualties Vision from 2002. Source: interview with the authors, 2020

The Zero Growth Objective's way into regulatory frameworks came via the Toll Road Settlement in Parliament, according to one interviewee (interview, senior local government official in Bergen, 2020). In other words, its communicability and propensity to travel was inscribed in its form. Since then, the Zero Growth Objective has been mentioned, integrated and discussed in innumerable briefs, policy documents, talks and newspaper articles on transport policy in Norway. The way the target is formulated – with its simple quantification: "zero" – may account for some of its carrying power. This simple quantification renders the intricate problem of sustainable transitions in transport, with its multiple modes of mobility, multiple scales of governance, and complex configurations of publicly funded infrastructure and individual behavior, into something highly measurable and governable – *zero growth*. It instantiates how the immutability of a "hard" number can create coherence, directionality and measurability to policy action.

It is also important to understand how the target was arrived at. It was carried from lofty White Papers on climate policy, through cross-party negotiations in Parliament, and then picked up by a bureaucratic working group negotiating the National Transport Plan. As a climate-related target, it is widely seen as a success, and currently constitutes an important element of the structural conditions for transport and mobility planning (Tennøy & Øksenholt 2018). Informants tell us that the Urban Growth Agreements would not have existed without the Zero Growth Objective (interviews, senior local government officials, 2020). We can follow the process through which this occurs quite concretely, through budget documents and funding agreements between the government and cities. Later, as we elaborate below, it made its way to the major cities of Norway through Urban Growth Agreements that specify government funding for urban infrastructure projects. In this journey, the Zero Growth Objective manages to build coherence among and harmonize a diverse set of interests, ideologies and governance logics.

In Figure 1 we have plotted the key policy documents into a timeline, to illustrate the development of the target over time, i.e., the articulation of a speculative technology through policy documents as artefacts of an emergent political ecology. As the figure illustrates, the metric has developed by being formulated with increased precision over time, as a specific target, increasingly tied to funding streams, and increasingly mentioned in the National Transport Plan.

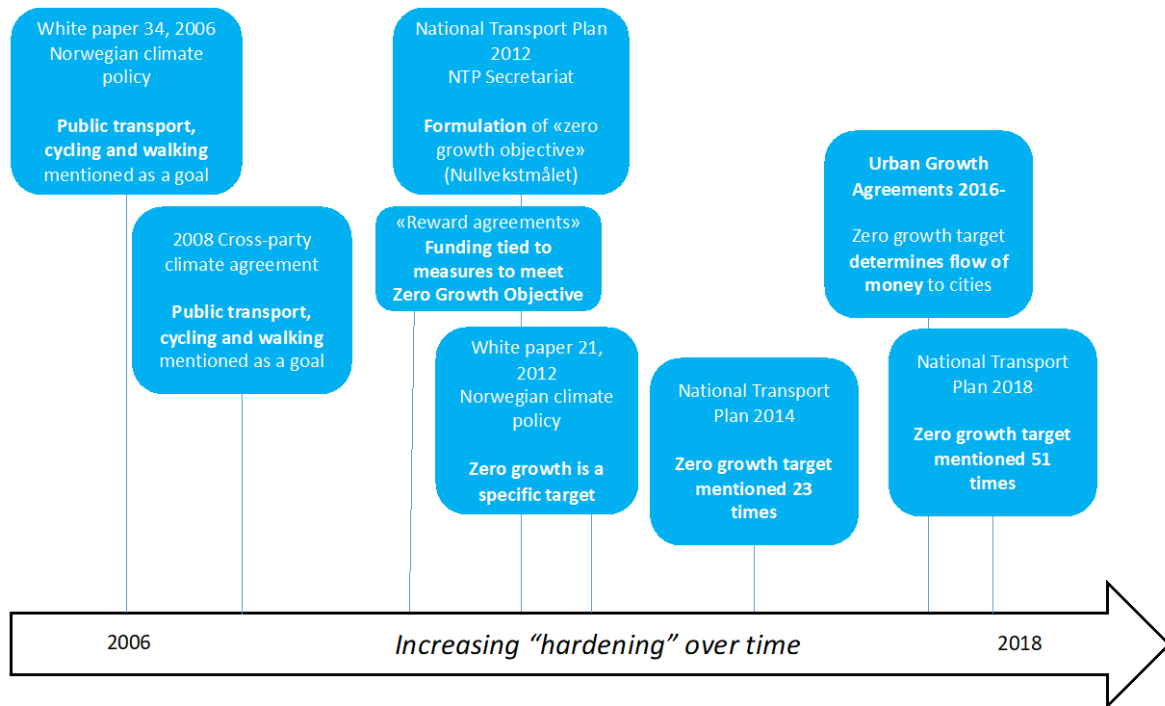


Figure 1: The development of the Zero Growth Objective in key policy documents (2006-2018), with increasing "hardening" over time.

#### *The Zero Growth Objective arrives in cities*

Starting in 2014, the National Transport Plan adopted the Zero Growth Objective as an important target for transport policy in cities. Here it was also translated to a concrete agreement framework tied to a funding scheme for cities, as it launched the Urban Environment Agreements. The stated purpose for this new framework is to meet the Zero Growth Objective.

It then followed that the Government would negotiate with the largest cities in Norway and other regional authorities with responsibility for transport, to create a "greater coherence in urban policy" by having these authorities collectively commit to common goals written into the Urban Environment Agreements (National Transport Plan 2014-2023, see Ministry of Transportation, 2012). Now, all relevant authorities would sign a binding agreement on how to meet the Zero Growth Objective, and this agreement would be the basis for government funding for local transport. So, from then on, the amount of funding cities received for local transport infrastructure was tied to how well they worked towards meeting the Zero Growth Objective. This has included specific indicators measuring whether or not car traffic decreases. In 2016 and 2017, such Agreements were signed with Oslo, Trondheim, Bergen and Stavanger (the Jæren region).

Subsequently, the Zero Growth Objective has been mainstreamed into planning and land use regulation of the cities themselves. It is a ubiquitous condition for decision-making within the wide range of issues that affect the abilities for cities to reach the goal, such as location of housing, retail services, transport infrastructure, congestion charging, and much more. It introduces a simple calculus for decision-makers in cities – failure to meet the target will affect the amount of government money available in the next round of negotiations. But beyond this, the effectiveness of the target goes beyond this simple calculus. It has become a standard reference point for ambitions in the climate field, and percolated into the urban policy discourse at many levels. And trends in actual traffic patterns are following suit – all cities mentioned above now have a

reduction in private car traffic in 2018 (Norwegian Environmental Agency, 2021). Arguably, it has contributed to normalizing and routinizing a way of thinking about transitions in cities that was considered highly ambitious – even intractable – only a few years ago.

#### *Local resistance*

Once formulated nationally, the Zero Growth Objective was written into Urban Growth Agreements, negotiated between the national government, the National Road Authority, the Regional County and the individual cities. By 2017, the target provided the overarching framing for these agreements. In the agreement negotiated for Bergen, it appears in the very first sentence [Urban Growth Agreement for Bergen, 2017]. This agreement gave 6 billion NOK (about €600m or US\$567m) in funding for local infrastructure projects – provided that the city had realistic plans to reach the target of zero growth. In other words, the target is not a vague ambition, as it was in 2006, but tied directly to significant funding streams.

A sure sign of the power of the target is the type of resistance it has generated. Interpretations vary considerably across cities and between urban centers and adjacent municipalities party to Urban Growth Agreements. While urban centers have developed rather ambitious objectives over several years in line with the Zero Growth Objective, more peripheral areas in the outskirts of the cities are challenging the generalizability of the Objective. "The Objective as such is an extremely hard sell, and it is difficult for the more peripheral municipalities to understand. It is the money behind it that makes a difference here, not the goal itself. We had never managed to get the outskirt municipalities onboard without these funds" (interview with senior local official in Bergen, 2020). In these areas, local politicians have won elections on programs of growth and development, and on opposing the objective altogether. Indeed, municipal employees in Austevoll municipality near Bergen reflected upon its non-partnership in the agreement when interviewed in 2020, saying perhaps

...the municipality does not want to give up on the council's authority over where to build" and that "the municipal plan and previous decisions provide guidelines for what we do today. And of course you have to have political leadership with you. And political leadership is of course development-friendly, where people want to build" (interview with the authors, 2020)

Hence for small-town politicians, autonomy in governing real estate and strategic spatial planning may well outweigh the benefits of federal funds that come with strings attached.

The target has made its way into public debate and turned into a catalyst, where it was once limited to technical artefacts including reports. It has been an animating theme for broad public debate and protest. In the municipal elections of 2019, a new protest party against road tolls (*The people's action – No to more road tolls*) emerged in the major cities. In Bergen, this party, which was formed the same year, became the third largest party, sending shock waves through the political establishment (Haarstad & Wanvik, 2021). Since the road tolls are mandated by the Urban Growth Agreements, founded on the Zero Growth Objective, the target was at the core of people's anger. It was particularly in suburban and rural areas around cities where revolts occurred, since they were the ones paying the increasing road tolls. It was basically their traffic that the Zero Growth Objective aimed to stop. National politicians, worried about the competition from the new protest party, started debating scrapping the Zero Growth Objective or revising it significantly.

In a sense, the resistance and public attention pertaining to the target indicate its significant carrying power. Few vague and ambitious formulations in White Papers make it that far. We attribute this to several things. For one, its articulation as a simple metric made it mobile, and enabled it to travel from technical reports and policy documents, through concrete funding schemes and implemented policy, and into public debate and resistance. The architects of the targets said they needed an easily formulated and measurable target – the "zero growth" formulation "cohered" a complex set of policy objectives around an easily communicable metric.

Still, it is of course an open question to what extent the Zero Growth Objective leads to a reduction in transport, and subsequently, a reduction in CO<sub>2</sub> emissions. The light rail in Bergen, one of the most expensive

and concrete outcomes of the Urban Growth Agreements, has shown that it is able to reduce private car transport, and that way, we might say that it meets the goal. Otherwise in Bergen (the suburbs), transport by private car has continuously increased in recent years, despite large investments and efforts to prevent it. This can tell us something about how effective the Zero Growth Objective actually is.

In reality, national and local governments are allowing developments that, while not legally contradicting the Urban Growth Agreements and the Zero Growth Objective *per se*, nonetheless undermine the ability of cities to reach the goal in practice. Large state-built road projects leading into the cities are certain to increase traffic flows into the city, making it hard for them to reach the target of zero growth in traffic – a paradox where the state effectively demands that cities reduce traffic, and then increases traffic flows into the same cities by expanding roads (see Tennøy *et al.* 2019). Local governments may also undermine the target of zero growth through their development projects. One example mentioned by one informant is how a single industrial development, Lyseparken industrial park in Bjørnafjorden municipality right outside Bergen, can undermine the entire investment in public transport, cycling and walking between Bergen and the adjacent suburb Os (interview, senior local official, Bergen, 2020). We also see that the land use and zoning plans of the bordering municipalities to Bergen are geared towards increased and continuous growth, something that in itself would undermine the Zero Growth Objective. Finally, the Zero Growth Objective is also undermined by the electrification of the private vehicle fleet, in which Bergen is a frontrunner. This provides a technological pathway to cutting CO<sub>2</sub> emissions from private cars, in ways that allow politicians to skirt more difficult decisions.

In other words, even though a target becomes an “immutable mobile” (Latour, 1987) and travels through institutional contexts, there is still an open question about how it is received and enrolled in local governance contexts. We would argue that the target assessed here has been highly successful, in terms of its reach and the force with which it has been picked up and implemented by governance agents. There are important lessons here on the mechanisms of how climate and sustainability-related targets are hardened to become mobile, and consequently bring coherence to policy actions. Yet the actual processes of local implementation, and in turn real reduction in CO<sub>2</sub> emissions, remain subject to local contestation and struggle.

## 5. Conclusion: Metrics and the political ecology of climate policy

In this article we have discussed how policy targets on climate change have real effects. Critical scholars have often taken a skeptical view of official climate discourses, seeing them as empty rhetoric at best, and greenwashing at worst (Blühdorn 2007; Delmas & Burbano 2011). We have tested the opposite view, looking at a case that may represent an example of a 'successful' climate-related target. Arguably, in a fragmented, polycentric and dispersed governance landscape, the immutability of a hard number can create coherence, direction and measurability to policy action.

The article contributes to speculative political ecology by moving beyond critiquing existing regimes of governance around target-setting in climate and sustainability policy. The case of Norway's Zero Growth Objective illustrates some of the processes that legitimize and normalize an ambitious climate-related target. This involved soft mechanisms, inserting itself in the discourse on urban policy and moving the goalposts; and hard mechanisms, conditioning funding flows from national to local levels and providing hard financial incentives for local action. The analysis of our case can help us tease out ways in which fragments of existing governance arrangements can become catalysts or be leveraged to help unlock shifts towards sustainability. As Westskog *et al.* (2020: p.564) reflect, "adaptive governance processes, especially those with complex underlying structures of roles and power, require time to develop." The Zero Growth Objective is a notable example of such gradual institutionalization (Grandin and Sareen 2020), a speculative technology propagated through artefacts like reports and the embodied agency of networked actors in a political ecology of urban transport and spatial planning.

To conclude, we revisit conceptualizations of targets as rhetorical practice, triggers for action, and immutable mobiles. The Zero Growth Objective shows that they can be all three, and that taken together, these can overcome the risk of targets being empty vessels, catalysts without durability, or metrics without enrolment. In this sense, to be effective, sustainability metrics *must* exhibit all the above properties, and these properties

must be enlisted and empowered by situated actors through strategic means over time, to unlock the potential held by targets as speculative technologies. The artefacts through which the technology propagates may be mundane (technical sectoral reports) or high-profile (national plans), visible (agreements) or invisible (timely interventions by key decision-makers), and are constitutive of a political ecology into which a metric must be absorbed to have real-world impact.

It is the dynamics of this absorption that we have engaged with here. We find enough substance to argue that climate targets should not be dismissed out of hand, but can be productively understood as speculative technologies with the potential to become self-fulfilling prophecies. The realization of this potential through relational means is a key element of the changing political ecology of sustainability transitions. Attention to maneuvers around metrics can provide empirical grounding to discussions of climate policy and targets, and generate insights into their impact and pathways for long-term, effective shifts in sectorial political ecologies.

## References

- Andonova, L. B., Betsill, M. M., & Bulkeley, H. (2009). Transnational climate governance. *Global Environmental Politics*, 9(2), 52-73. <https://doi.org/10.1162/glep.2009.9.2.52>
- Béland, D. (2010). The idea of power and the role of ideas. *Political Studies Review*, 8(2), 145-154. <https://doi.org/10.1111/j.1478-9302.2009.00199.x>
- Berker, T., & Larssæther, S. (2016). Two exemplar green developments in Norway: Tales of qualculation and non-qualculation. In Y. Rydin & L. Tate (eds.), *Actor networks of planning: exploring the influence of Actor Network Theory*. (pp. 95-110). Routledge.
- Birner, R., Davis, K., Pender, J., Nkonya, E., Anandajayasekeram, P., Ekboir, J., ... & Cohen, M. (2009). From best practice to best fit: A framework for designing and analyzing pluralistic agricultural advisory services worldwide. *Journal of Agricultural Education and Extension*, 15(4), 341-355. <https://doi.org/10.1080/13892240903309595>
- Blondeel, M. (2019). Taking away a "social license": Neo-Gramscian perspectives on an international fossil fuel divestment norm. *Global Transitions*, 1, 200-209. <https://doi.org/10.1016/j.glt.2019.10.006>
- Blühdorn, I. (2007). Sustaining the unsustainable: Symbolic politics and the politics of simulation. *Environmental Politics*, 16(2), 251-275. <https://doi.org/10.1080/09644010701211759>
- Bulkeley H. (2006). Urban sustainability: learning from best practice? *Environment and Planning A* 38: 1029-1044. <https://doi.org/10.1068/a37300>
- Carstensen, M. B. (2011). Paradigm man vs. the bricoleur: Bricolage as an alternative vision of agency in ideational change. *European Political Science Review*, 3(1), 147-167. <http://doi.org/10.1017/S1755773910000342>
- Clarke, N. (2012). Urban policy mobility, anti-politics, and histories of the transnational municipal movement. *Progress in Human Geography*, 36(1), 25-43. <https://doi.org/10.1177/0309132511407952>
- Cleaver, F., & Whaley, L. (2018). Understanding process, power, and meaning in adaptive governance. *Ecology and Society*, 23(2): 49. <https://doi.org/10.5751/ES-10212-230249>
- Cochoy, F. (2002). *Une sociologie du packaging ou l'âne de Buridan face au marché: Les emballages et le choix du consommateur*. Presses Universitaires de France.
- Delmas, M. A. & Burbano, V. C., (2011). The drivers of greenwashing. *California Management Review*, 54(1), 64-87. <https://doi.org/10.1525/cmr.2011.54.1.64>
- Foucault, M. (1991) Governmentality. In Burchell G, Gordon C. & Miller, P. (eds.) *The Foucault effect: Studies in governmentality* (pp. 87-104). Harvester Wheatsheaf.
- Grandin, J. Forthcoming. Cohering transformations: the politics of sustainable mobility in Addis Ababa. Unpublished manuscript.
- Grandin, J., & Haarstad, H. (2021). Transformation as relational mobilisation: The networked geography of Addis Ababa's sustainable transport interventions. *Environment and Planning D: Society and Space*, 39(2), 289-308. <https://doi.org/10.1177/0263775820963281>

- Grandin, J., Haarstad, H., Kjærås, K., & Bouzarovski, S. (2018). The politics of rapid urban transformation. *Current Opinion in Environmental Sustainability*, 31, 16-22. <https://doi.org/10.1016/j.cosust.2017.12.002>
- Grandin, J. & Sareen, S. (2020). What sticks? Ephemerality, permanence and urban transformation pathways. *Environmental Innovation and Societal Transitions* 36, 72-82. <https://doi.org/10.1016/j.eist.2020.04.008>
- Haarstad, H. (2016). Where are urban energy transitions governed? Conceptualizing the complex governance arrangements for low-carbon mobility in Europe. *Cities*, 54, 4-10. <https://doi.org/10.1016/j.cities.2015.10.013>
- Haarstad, H., & Wanvik, T. I. (2017). Carbonscapes and beyond: Conceptualizing the instability of oil landscapes. *Progress in Human Geography*, 41(4), 432-450. <https://doi.org/10.1177/0309132516648007>
- Haarstad, H., & Wanvik, T. I. (2021). Populism, Instability, and Rupture in Sustainability Transformations. *Annals of the American Association of Geographers*, 111(7), 2096-2111. <https://doi.org/10.1080/24694452.2020.1866486>
- Holgerson, S., & Hult, A. (2020). Spatial myopia: Sustainability, urban politics and Malmö city. *International Journal of Urban Sustainable Development*, 13(2), 159-173. <https://doi.org/10.1080/19463138.2020.1855432>
- Hughes, S., Giest, S. & Tozer, L. (2020). Accountability and data-driven urban climate governance. *Nature Climate Change*, 10, 1085–1090. <https://doi.org/10.1038/s41558-020-00953-z>
- Jasanoff, S. (2010). A new climate for society. *Theory, Culture & Society*, 27, 233-253. <https://doi.org/10.1177/0263276409361497>
- Jensen, J. S., Cashmore, M., & Elle, M. (2017). Reinventing the bicycle: How calculative practices shape urban environmental governance. *Environmental Politics*, 26(3), 459-479. <https://doi.org/10.1080/09644016.2017.1311089>
- Jonas A. E. G., Gibbs, D. & While, A. (2011) The new urban politics as a politics of carbon control. *Urban Studies* 48, 2537-2554. <https://doi.org/10.1177/0042098011411951>
- Jordan, A. J., Huitema, D., Hildén, M., Van Asselt, H., Rayner, T. J., Schoenefeld, J. J., Tosun, J., Forster, J. & Boasson, E.L. (2015). Emergence of polycentric climate governance and its future prospects. *Nature Climate Change*, 5(11), 977-982. <https://doi.org/10.1038/nclimate2725>
- Kama, K., & Kuchler, M. (2019). Geo-metrics and geo-politics: Controversies in estimating European shale gas resources. In A. Bobbette & A. Donovan (eds.). *Political geology* (pp. 105-145). Palgrave Macmillan. [https://doi.org/10.1007/978-3-319-98189-5\\_4](https://doi.org/10.1007/978-3-319-98189-5_4)
- Kramers, A., Wangel, J., Johansson, S., Höjer, M., Finnveden, G., & Brandt, N. (2013). Towards a comprehensive system of methodological considerations for cities' climate targets. *Energy Policy*, 62, 1276-1287. <https://doi.org/10.1016/j.enpol.2013.06.093>
- Latham, G. P., & Locke, E. A. (2006). Enhancing the benefits and overcoming the pitfalls of goal setting. *Organizational Dynamics*, 35(4), 332-340. <https://doi.org/10.1016/j.orgdyn.2006.08.008>
- Latour, B. (1987). *Science in Action: How to follow scientists and engineers through society*. Harvard University Press.
- Leal, V. and Azevedo, I. (2016). Setting targets for local energy planning: Critical assessment and a new approach. *Sustainable Cities and Society* 26, 421-428. <https://doi.org/10.1016/j.scs.2016.04.010>
- Leffel, B. (2022). Toward global urban climate mitigation: Linking national and polycentric systems of environmental change. *Sociology of Development* 8(1), 111–37. <https://doi.org/10.1525/sod.2021.0018>
- McCann E. (2011). Urban policy mobilities and global circuits of knowledge: Towards a research agenda. *Annals of the Association of American Geographers*, 101(1), 107-130. <https://doi.org/10.1080/00045608.2010.520219>

- McGuirk, P., & Dowling, R. (2021). Urban governance dispositifs: Cohering diverse ecologies of urban energy governance. *Environment and Planning C: Politics and Space*, 39(4), 759-780. <https://doi.org/10.1177/2399654420957329>
- Methmann, C. P. (2010). 'Climate Protection' as empty signifier: A discourse theoretical perspective on climate mainstreaming in world politics. *Millennium: Journal of International Studies*, 39: 345-372. <https://doi.org/10.1177/0305829810383606>
- Merton, R. K. (1948). The self-fulfilling prophecy. *The Antioch Review*, 8(2), 193-210. <https://doi.org/10.2307/4609267>
- Ministry of Transportation, 2012. *Nasjonal Transportplan 2014-2023. Stortingsmelding 26 (2012-2013)*. [National Transport Plan, White paper 26]. The Norwegian Government.
- Miller C. (2005). New civic epistemologies of quantification: Making sense of indicators of local and global sustainability. *Science, Technology and Human Values*, 30, 403-432. <https://doi.org/10.1177/0162243904273448>
- Norwegian Environmental Agency, 2021. Emission of climate gases in Norwegian municipalities [online database]. Retrieved from <https://www.miljodirektoratet.no/tjenester/klimagassutslipp-kommuner/?area=571&sector=-2>. Accessed November 2020.
- Peck, J. & Theodore, N. (2015). *Fast Policy: Experimental statecraft at the thresholds of neoliberalism*. University of Minnesota Press.
- Prince, R. (2010). Policy transfer as policy assemblage: Making policy for the creative industries in New Zealand. *Environment and Planning A: Economy and Space*, 42(1), 169-186. <https://doi.org/10.1068/a4224>
- Randalls, S. (2010). History of the 2°C climate target. *WIREs Climate Change*, 1, 598-605. <https://doi.org/10.1002/wcc.62>
- Rosenzweig, C., Solecki, W., Hammer, S. A., & Mehrotra, S. (2010). Cities lead the way in climate-change action. *Nature*, 467(7318), 909-911. <https://doi.org/10.1038/467909a>
- Steinberg, P., & Kristoffersen, B. (2017). 'The ice edge is lost... nature moved it': Mapping ice as state practice in the Canadian and Norwegian North. *Transactions of the Institute of British Geographers*, 42(4), 625-641. <https://doi.org/10.1111/tran.12184>
- Strand A. (2016). Nullvekstmålet – tiljublet, men mangelfullt utredet. *Samferdsel*, August 24. Retrieved from <https://samferdsel.toi.no/lenkede-saker/nullvekstmålet-tiljublet-men-mangelfullt-utredet-article33414-2232.html>.
- Swyngedouw E. (2010). Apocalypse Forever? Post-political populism and the spectre of climate change. *Theory, Culture & Society*, 27, 213-232. <https://doi.org/10.1177/0263276409358728>
- Temenos, C., & McCann, E. (2012). The local politics of policy mobility: Learning, persuasion, and the production of a municipal sustainability fix. *Environment and Planning A: Economy and Society*, 44(6), 1389-1406. <https://doi.org/10.1068/a44314>
- Tennøy, A. & Øksenholt, K.V. (2018). The impact of changed structural conditions on regional sustainable mobility planning in Norway. *Planning Theory & Practice*, 19, 93-113. <https://doi.org/10.1080/14649357.2017.1408135>
- Tennøy, A., Tønnesen, A., & Gundersen, F. (2019). Effects of urban road capacity expansion—Experiences from two Norwegian cases. *Transportation Research Part D: Transport and Environment*, 69, 90-106. <https://doi.org/10.1016/j.trd.2019.01.024>
- Van Ewijk, E., Baud, I., Bontenbal, M., Hordijk, M., van Lindert, P., Nijenhuis, G., & van Westen, G. (2015). Capacity development or new learning spaces through municipal international cooperation: Policy mobility at work? *Urban Studies*, 52(4), 756-774. <https://doi.org/10.1177/0042098014528057>
- Wanvik, T. I. (2018). *Contested energy spaces: Disassembling energyscapes of the Canadian North*. Springer. <https://doi.org/10.1007/978-3-030-02396-6>

- Westskog, H., Amundsen, H., Christiansen, P., & Tønnesen, A. (2020). Urban contractual agreements as an adaptive governance strategy: Under what conditions do they work in multi-level cooperation? *Journal of Environmental Policy & Planning*, 22(4), 554-567. <https://doi.org/10.1080/1523908X.2020.1784115>
- While, A., Jonas, A. E. G. & Gibbs, D. (2010). From sustainable development to carbon control: Eco-state restructuring and the politics of urban and regional development. *Transactions of the Institute of British Geographers*, 35, 76-93. <https://doi.org/10.1111/j.1475-5661.2009.00362.x>