cogitatio

ARTICLE

"The Citizen" as a Ghost Subject in Co-Producing Smart Sustainable Cities: An Intersectional Approach

Leika Aruga [1] , Hilde Refstie [2] , and Hilde Nymoen Rørtveit [2]

[1] Department of Interdisciplinary Studies of Culture, Norwegian University of Science and Technology, Norway
[2] Department of Geography, Norwegian University of Science and Technology, Norway

Correspondence: Leika Aruga (leika.r.aruga@ntnu.no)

Abstract

The importance and benefits of engaging citizens as co-producers of urban transformation have been increasingly recognised. However, the mere implementation of citizen co-production does not guarantee more legitimate or inclusive policy decisions and outcomes, especially when power inequalities that shape local decision-making remain unaddressed. This article examines the transformative potential of citizen co-production in smart sustainable city initiatives using two successive citizen panels in Trondheim, Norway, as cases. The study aimed to understand the role of citizen co-production in these panels, and the notion of "the citizen" within their frameworks. Three challenges with co-production were identified. Firstly, the ad-hoc nature of citizen engagement emphasised individual participation rather than facilitating collective spaces from which political agency could emerge. Secondly, citizens' viewpoints were perceived as uninformed preferences that could be transformed through professional guidance. This, coupled with the closed nature of the initiatives, raises questions about the transformative potential of the processes, particularly in challenging the underlying premises of citizen co-production shaped by a neoliberal discourse of smart sustainable cities. The article concludes with a call to analyse citizen co-production spaces through an intersectional lens that attends to relational understandings of power dynamics and identities. This analysis should not only consider who participates, but also how "the citizen" as a subject is conceptualised and mobilised, how citizens' interests and knowledge are taken into account, and the political significance of their involvement.

Keywords

citizen panel; co-production; democratic innovations; intersectionality; smart sustainable cities

---

1. Introduction

Recently, co-production has become more prevalent in urban planning and development, especially in conjunction with discussions in sustainability science with a particular focus on co-producing urban sustainability (Caniglia et al., 2021; Chambers et al., 2021; Frantzeskaki & Rok, 2018; Richardson et al., 2018). While many scholars highlight the role of academia and researchers in such co-production, this article focuses on the central role of citizens and how "the citizen" subject is co-produced. We discuss citizen co-production by drawing on a study of two citizen panels carried out by the Trondheim Municipality in Norway as part of their efforts to co-produce smart and sustainable city strategies. We define co-production as a process that encompasses, but is not limited to, knowledge production, where situated understandings of sustainability emerge and are acted upon through interactions among multiple actors. The term "citizen co-production" is employed to underscore the role of citizens, and to distinguish our work from practice-oriented research where researchers are centrally positioned.

Our objective in studying citizen co-production is to generate a critical understanding of the possibilities for transformative change through its practice. Transformative change in this context means a shift in power relations that enable individuals and groups to effectively impact state institutions and policy development (Mitlin & Bartlett, 2018). It entails questioning dominant agendas for sustainable development, taking into account marginalised voices and making space for contestation and pluralism (Chambers et al., 2022). Hence, achieving transformative change requires serious engagement with the power asymmetries inherent in co-production processes and scrutiny of whose interests are being advanced. Nevertheless, Turnhout et al. (2020) have expressed concern that insufficient attention has been paid to the role of power and politics in the co-production literature. In response to this concern, we propose intersectionality as an analytical approach to unpack co-production. Originating from the praxis of critical race theory and feminism, intersectionality provides a critical framework for understanding, explaining, and intervening against the reproduction of inequality (Cho et al., 2013). Over the past 30 years, intersectionality has become a paradigm guiding not only gender, diversity and inclusion research but a variety of disciplines. An important premise lies in the dynamic conceptualisation of identity and social grouping, where individual and collective identities are entangled, and local categories or demarcation of actors are understood as constantly in the making (Collins & Bilge, 2020). Therefore, as the article will elaborate, unpacking citizen co-production with an intersectional lens demonstrates how the citizen subject is shaped and enacted dynamically throughout the co-production process, bearing in mind that some aspects of their identities are brought to the forefront while others are relegated to the background (V. M. May, 2015). Moreover, intersectionality draws attention to how co-production processes frequently neglect how identities, opinions, and political agency are formed collectively over time (Swyngedouw, 2010). Against this background, this article explores how intersectionality can contribute to situating and making visible power asymmetries in spaces of citizen co-production. It uses an intersectional lens to address the primary research question: How was "the citizen" subject conceptualised, enacted, and co-produced in the design of the citizen panels alongside considerations made about inclusion and exclusion during their implementation?

The two citizen co-production practices discussed in this article were chosen because of their explicit aim to create an inclusive and deliberative space for sustainable urban planning and development. The first initiative, the citizen panel named Borgerkraft, involved 16 residents who came together to deliberate on the criteria for Trondheim Municipality to support citizen-initiated sustainability interventions in their own

neighbourhoods. Borgerkraft is an invented word which combines the Norwegian words *borger* (citizen) and *kraft* (power), translated into English as "citizen power." The second initiative, the Trondheim Panel, involved 50 residents who deliberated on societal dilemmas and sustainability challenges in Trondheim. The Trondheim Panel was implemented as part of developing the societal element of the municipal master plan for 2020–2032. One of the reasons for Trondheim Municipality's experimentation with these specific forms of co-production—categorised as democratic innovations—was in response to limited citizen outreach through organisations, and to avoid the overrepresentation of certain social groups in participatory spaces. Thus, both initiatives are approached as deliberative efforts by the Trondheim Municipality towards inclusiveness and a wider representation of citizens in processes of co-producing strategies for sustainable urban planning and development.

While taking note of the criticism and concerns regarding research on specific interventions or pre-given models of participation (Chilvers & Longhurst, 2016; Mitlin & Bartlett, 2018), we argue that paying close attention to specific spaces of co-production helps to generate a critical understanding of how power relations and inequalities are produced, maintained, or challenged in co-production. This approach brings us closer to the empirically grounded intersectionality approach articulated by Marfelt (2016). Furthermore, the citizen panels in our study were sequential, with the Trondheim Panel designed to incorporate insights from the Borgerkraft process. Adopting a connected case study methodology allows us to analyse the differences in implementation between the two panels, enabling a process-oriented comparison (Bartlett & Vavrus, 2017).

The article begins by introducing intersectionality as an entry point to assess the transformative potential of citizen co-production practices. It then explains the methods employed to study the two citizen panels and provides the background for the Trondheim Municipality's efforts to co-produce smart and sustainable city strategies and plans. The article continues to outline the design and set-up of the two citizen panels and analyses their implementation concerning three concepts: *equality of presence, equality of voice*, and *outcomes*. We show how citizen co-production does not necessarily lead to more inclusive and effective policy decisions and outcomes unless power inequalities that shape local decision-making are challenged. We argue that an intersectional perspective is crucial in making such dynamics visible and should be further developed as an approach to studying citizen co-production.

2. Unpacking Citizen Co-Production With an Intersectional Lens

This article examines the co-production of sustainability strategies, policies, and plans through citizen panels. Some suggest that the term "co-creation" better describes these upstream processes (Brandsen et al., 2018). However, since the panels' purposes, designs, and roles were primarily developed by the municipality, we view the panels as mid-stream between initiation, active decision-making, and consultation. Moreover, the article focuses on how "the citizen" is constructed and co-produced as an ideal and depoliticised subject in these processes. The term "co-production" has been conceptualised and used in different ways across public and business administration, science and technology studies, and sustainability science (Miller & Wyborn, 2020). While there is no agreed-upon definition, sustainability science conceptualises co-production as an aspirational approach imperative for tackling complex problems like sustainability challenges. Conversely, within public and business administration as well as science and technology studies, co-production is deemed inevitable, regardless of whether the relationships among actors are collaborative, confrontational, or competitive. They all contend that complex challenges cannot be solved by the public sector alone and

that knowledge production or governance is always embedded in larger societal processes. They also question whose knowledge and worldviews are taken into account in deliberate processes of co-production (Miller & Wyborn, 2020; Turnhout et al., 2020). This question is essential, since the lack of attention to power asymmetries and the political dimensions of co-production risks reproducing or exacerbating existing inequalities (Cardullo & Kitchin, 2019; Levenda, 2019; Turnhout et al., 2020). For instance, experiments with citizen co-production through citizen panels have faced criticism for prioritising consensus while overlooking the influence of power within participatory spaces, leading to foreclosed political imaginaries and sustained status quo (Swyngedouw, 2010). As a result, the transformative potential of citizen co-production has been called into question, emphasising the need to unpack how it takes place, who it involves, and what political significance it has. Intersectional perspectives can prove useful in this regard, as they highlight the role and impact of power structures on discrimination and privilege.

While intersectionality is often narrowly understood as a concept bringing attention to the intersections of identities such as gender, class, race, and ethnicity, intersectional perspectives also offer ways to foreground critical inquiry (Collins, 2019). An intersectional way of thinking, as articulated by Cho et al. (2013) and Collins (2019), emphasises the never-static, mutually constitutive processes of identity and agency formation to understand social differences and power, and attend to the multi-dimensional dynamics of inclusion and exclusion. It acknowledges distinctive "standpoints" shaped by mutually influencing systems of power that form the understanding of knowledge and ways of knowing about and acting upon the social and material world. Intersectional perspectives are thus helpful to assess to what extent co-production initiatives can be regarded as transformative. For instance, Castán Broto and Neves Alves (2018) explore the crossovers between intersectionality and co-production of urban services. They contend that an intersectional lens may help to ask old and new questions about the recognition of needs, the dynamics of participation and deliberation, and the conceptual basis for understanding people's realities. They argue that this is important because, while co-production can facilitate the sharing of diverse experiences, it can also limit and close arenas for dialogue. Although the emphasis of Castán Broto and Neves Alves lies on community-based organisations, grassroots groups, and co-production practices in lower-income countries, they implicitly demonstrate how the use of intersectionality as a critical lens can help unpack power relations of co-production in "invited spaces" (Cornwall, 2008) such as the citizen panels discussed in this article.

Citizen panels framed as democratic innovations are typically designed to address inequalities and deliberate on processes of social change. The enthusiasm for co-production in urban planning and the proliferation of democratic innovations converge on the goal of creating new modes of citizen engagement that are more inclusive and give voice to marginalised groups (Nyseth et al., 2019). In the research presented in this article, we use an analytical framework that encompasses the concepts of equality of presence, equality of voice, and outcome. This framework is inspired by the literature on deliberative governance and democracy, viewed through an intersectional lens. According to Smith (2009), the selection method employed in citizen panels is intended to ensure equality of presence and prevent systematic exclusion of certain social groups from participation. Secondly, the deliberation in small groups with structured facilitation aims at promoting equality of voice. However, these claims of equality are ideals and require constant critical scrutiny (Curato & Böker, 2016). Moreover, equality of presence and equality of voice are not necessarily transformational if they do not lead to concrete outcomes (Nyseth et al., 2019). Here, intersectionality plays a vital role. Wojciechowska (2019), for instance, argues that intersectional analyses can advance the inclusivity of democratic innovations with a particular eye on people who are at the intersection of disempowered

identity markers, and on people who identify themselves as part of a dynamic identity spectrum outside of traditional category-based understandings. While we agree that this is an important perspective, our study does not primarily focus on specific identity groups. Instead, we employ an intersectional lens to understand how the citizen-subject is conceptualised and performed alongside considerations made about inclusion and exclusion during the design and implementation of the two citizen panels.

2.1. Equality of Presence

To ensure equality of presence, citizen panels place central importance on how citizens are recruited into the process. Random sampling techniques, for example, guarantee that "each member of the (political) community" has an equal chance to be selected just as they attempt to give voice to "people that are often neglected" (Michels & Binnema, 2019, p. 236). A citizen panel informed by an intersectional approach may try to critically engage with social divisions and categorical boundaries that are used to shape equality of presence in citizen panels. Attention may be given to how categories are constructed in specific situations and concerning specific people (Yuval-Davis, 2006). To avoid the exclusion of citizens from numerically small social groups, citizen panels may employ stratified sampling or quotas to ensure their inclusion (Smith, 2009). However, even if it helps expand coverage, the use of predefined categories for inclusion may result in the oversight of marginalised groups at the intersection of multiple categories. Additionally, individuals who are unregistered or homeless can be excluded from the sampling base (Wojciechowska, 2019). Such exclusion is indicative of the power held by the designer of panels to define the political community and what should count as "the citizen" in each group. At the same time, the majority of those who are invited onto citizen panels refuse to participate due to how they perceive their roles, abilities, and capabilities in political participation and the prospect of influencing the outcome of participation (Jacquet, 2017). Therefore, as Wojciechowska (2019) observes, critical reflection is needed concerning structural factors which may prevent some from participating while privileging others.

2.2. Equality of Voice

Equality of presence does not directly translate into equality of voice, which entails providing every participant with an equal opportunity to influence the deliberation process and final outcomes (Smith, 2009). To create an environment where diverse viewpoints are not only respected but also given substantial consideration, the design of citizen panels takes into account how the agenda or the mandate of the panel is set, how information and knowledge are made available to panel members, how facilitation is conducted, and how decision-making is documented. Citizen panels centre decision-making on deliberation, where the citizen power lies in the ability to present compelling ideas and arguments to shape the outcome (Michels & Binnema, 2019). Here, the assumption is that individuals will be open to considering and integrating ideas and perspectives presented by others because they are not engaged as stakeholders or representatives of organised groups. With this assumption, factors like "social practices, institutional arrangements, and cultural ideologies and the outcomes of these interactions in terms of power" may be overlooked (Davis, 2008, p. 68). On the other hand, recognising power relations and their role in subject formation keeps the focus on complex subjectivities that cannot be understood in isolation from social locations and cautions against the de-politicised treatment of inequalities as mere individual differences (V. M. May, 2015). Further, these factors that are brought to light with an intersectional lens problematise the very idea of the "common good" that often guides deliberation.

2.3. Outcomes

One of the underlying premises of representative deliberative processes is that they can lead to better public decisions (OECD, 2020). However, in many instances, the outputs of citizen panels come in the form of recommendations rather than binding decisions directed at the organising body (Smith & Wales, 2000). Panels often lack clear connections to formal planning processes, which can undermine transparency and accountability and hinder the materialisation of outcomes (Nyseth et al., 2019). Besides the exceptional cases where the recommendations of citizen panels led to public referendums on electoral reforms, there is no guarantee that citizen panels' recommendations influence broader political decision-making processes (Smith, 2009). This reflects, to some extent, the tension between direct and indirect democracy, where democratic innovations are meant to complement and not substitute other representative local democracy structures (Niessen, 2019). It can also be difficult to trace what impact citizen panels have on decision-making and assess the outcomes against the purpose of the panels. In fact, ensuring publicity and accountability is seen as one of the weaker traits of citizen panels (Smith, 2009). This relates to publicity concerns (Young, 2001), how decision-making and outcomes in such panels are rarely documented (Setälä, 2017), and the depoliticised nature of the deliberation process where consensus on "the public good" is highlighted over conflicting stakeholder interests (Niessen, 2019).

3. Methods

The study was conducted using a connected case study approach (Bartlett & Vavrus, 2017). The two cases were selected due to their explicit focus on democratic values and inclusiveness, which stood out from previous citizen co-production practices in Trondheim at the time of the study. The panels were organised in succession, with the insights from the Borgerkraft Panel intended to inform the design of the Trondheim Panel. This sequencing allowed for a process-oriented comparison between the two. Fieldwork was carried out by the lead author between 2020 and 2023, resulting in 18 qualitative interviews with municipal planners, resource persons involved in setting up and implementing the panels, and panel members. It is important to note that none of the authors were engaged in the design or implementation of the panels. While the initial plan was to mainly interview panel members, this proved challenging since the Borgerkraft Panel was executed with strict anonymity measures. The only opportunity to contact the panel members was a one-time invitation sent via a panel organiser, to which just one member responded. Conversely, the names of the members of the Trondheim Panel were made public and three members were interviewed. In addition to the interviews, we draw on information from the official Trondheim Municipality website and a digital platform that they established for democratic innovations. The analysis is also informed by project documents of other citizen co-production initiatives in Trondheim and the political strategy Trondheim: The Co-produced Municipality that frequently surfaced in interviews.

The interviews with the panel organisers and resource persons explored the origin of the idea and motivation for organising citizen panels, how the panels were designed, and what role each of them had played in the design and implementation of the panels. Specific attention was paid to how the citizen was constructed as a subject and how interviewees reflected on issues regarding representation, process inclusion/exclusion and outcomes. The interviews with the panel members focused on their motivation for participating, their aspirations with the panel, and how they experienced their participation with similar reflections on representation, positionality, process, and outcomes. The interview data was transcribed and

coded using NVivo. Descriptive codes were initially assigned to phrases that described how the panels were carried out. Subsequently, analytical codes were developed and organised under the four headings of *framing* (co-production, construct of citizens, smart, sustainability), *recruitment* (inclusion, inequality, motivation), *deliberation* (agenda, facilitation, knowledge, representation), and *outcome* (governance, legitimacy, publicity, recommendation, trust). The data, organised under these headings, were subsequently analysed in terms of their association with the dimensions of equality of presence, equality of voice, and outcomes.

The aim of this article is not to evaluate the design and implementation of the two panels but rather to utilise examples from the two cases to demonstrate how an intersectional lens illuminates some of the challenges and dilemmas in using citizen panels to achieve transformative citizen co-production in urban planning. Although interviewing more panel members would have given deeper insights into the perspectives of the citizens themselves, examining the organiser's views through an intersectional lens proved useful in revealing the power asymmetries that influenced whose voices were heard and acted upon in the citizen panels. The four interviews with panel members also demonstrated the multiple and dynamic formation of individual and group identities and how they related to the making of the citizen subject in the panels.

4. Experiments With Citizen Co-Production Through Citizen Panels in Trondheim

Since the 2000s, citizen panels have regained popularity in Norway with a growing emphasis on citizen co-production, which redefines the roles of local authorities and citizens (Nyseth et al., 2019). In Trondheim, The Co-Produced Municipality strategy is implemented in the municipal planning strategy, highlighting the responsibility that the municipality has as a democratic institution to engage citizens as co-producers in planning (Trondheim Municipality, 2019). The strategy views citizens as active rather than passive recipients of services, leveraging them as valuable resources to address complex societal challenges. In Trondheim, citizen co-production has specifically been utilised in smart sustainable city development and to localise the Sustainable Development Goals (Gohari et al., 2020; Refstie, 2022). The two panels discussed in this article are examples of such efforts, reflecting how citizen panels have been tested in several Norwegian cities in recent years to address sustainability (Arnesen et al., 2021). However, the Borgerkraft and Trondheim Panels can be distinguished from previous citizen panels in Norway in that they employ random sampling to assemble a panel of citizens to engage in deliberation processes on public matters. They thus represent novel experiments of citizen co-production.

4.1. The Borgerkraft Panel

The Borgerkraft Panel was designed and implemented as part of a project by the municipal planning administration in collaboration with researchers from the Norwegian University of Science and Technology and with the support of the social enterprise SoCentral. The aim was to accelerate local sustainability efforts through collaborations between the planning administration and citizens. It had a geographical focus on the southern districts of Trondheim, a diverse part of the city characterised by a relatively high prevalence of social problems. The planning administration had previously experimented with various participatory initiatives in an area-development programme targeting one of these districts, and the planners who worked with the area programme were mobilised for the design and implementation of the panel. The Borgerkraft project was initially designed as a stepwise process where the citizen panel (Phase 1) would design a

participatory budgeting process (Phase 2) as illustrated in Figure 1. However, Phase 2 did not take place due to a change of circumstances in terms of budget availability, but also because anticorruption regulation blocks direct public decision-making on the spending of state budgets and grants (Whittington, 2022). Therefore, the mandate of the panel was changed to, firstly, deliberate on what sustainability means locally to citizens in Southern Trondheim; secondly, give ideas on how to mobilise local resources to contribute towards sustainable development; and thirdly, advise the municipality on how they could better support local initiatives.

Borgerkraft project	Phase 1			Phase 2		
	Borgerkraft Panel			Participatory budgeting		
	Recruitment	Deliberation	Recommendations	Proposals by citizens	Voting	Implementation
Municipal master plan	Phase 1	Phase 2			Phase 3	Phase 4
	Development of the plan by the planning administration					Endorsement by Municipal Council and implementation
	Gathering of citizens' perspectives	Trondheim Panel			Goal and strategy setting workshops and public hearings	
		Recruitment	Deliberation	Recommendations		

Figure 1. Citizen panels (in green) shown as one segment of the Borgerkraft project and the development of the municipal master plan.

Of the project areas, 800 residents were chosen through a lottery process and 82 citizens responded positively to participation. Using the self-reported information about their gender, age, and districts, the pool of respondents was further stratified to roughly represent the demography in the areas, resulting in 16 panel members whose identities were kept anonymous to the public. The Borgerkraft Panel met four times between February and June 2020. The process of deliberation followed what is commonly recommended in citizen panels: a learning phase, followed by deliberation and decision-making (OECD, 2020). The panel discussed what sustainability meant for them in the areas where they live, what types of projects the planning administration and citizens could collaborate on, and the criteria for citizen initiatives to receive support from the municipality. While the full report has not yet been published, the panel recommended the municipality to fund (a) projects that contribute to better, more sustainable, and diverse neighbourhoods; (b) projects that are identity-building and create a sense of belonging; and (c) projects that contribute to social inclusion (Næss, 2020).

4.2. The Trondheim Panel

The Trondheim Panel was initiated in 2021 to increase citizen involvement in developing the societal element of the municipal master plan 2020–2032. The panel followed a range of co-production activities put in place by the planning administration (Figure 1). Four thousand invitations were sent to randomly selected residents, of which 375 were accepted; 50 members were then selected for the panel based on gender, age, district of residence, and level of education, roughly representing the demography of Trondheim in those categories. The panel was asked to deliberate on two overarching questions: (a) How does a "good life" in Trondheim's community fit into the discussion about the planet's resilience and the environmental and climate debate? (b) What smart steps must we take going forward? The panel was summoned on five occasions between

November 2021 and February 2022. It followed the process of getting to know each other, learning about the topic, deliberation, and making recommendations for the plan. At the last gathering, the panel presented their recommendations to the members of the municipal council. The Trondheim-based design firm Spring Methods was involved in the design and implementation of the panel, and the process was observed and evaluated by SINTEF, a research organisation (see Floch et al., 2023). After the Trondheim Panel, the proposal of the master plan went through another round of citizen deliberation including a public hearing (Phase 3) before the plan was adopted by the municipal council in November 2022 (Phase 4).

5. Presence, Voice, and Outcome in the Borgerkraft and Trondheim Panels

Although the two citizen panels had many similarities in their goals, underlying assumptions, and design, there are key differences that impacted equality of presence, equality of voice, and outcomes. In the following sections, we discuss these variations and their implications.

5.1. Equality of Presence

One of the main reasons for using the random sampling technique to recruit panel members in both cases was to attain a certain level of representativity and overcome unequal participation by including groups that are normally underrepresented. This was partly achieved in both panels. One member described the Borgerkraft Panel as "a group of people who I would normally, maybe never even, have a conversation with—people with very different lives, different ages, at different stages in life, with different political views." Members of the Trondheim Panel shared this impression of diverse representation. Still, the selection criteria failed to include a careful consideration of politically marginalised groups. For instance, the municipality had previously identified women from multicultural backgrounds as a missing and underrepresented group in participatory planning and decision-making. However, no intentional inclusion was made of this group. To mitigate the exclusion of temporal residents, both panels were set up using the postal register instead of the National Register. This was primarily to include students who often remain registered in their home districts while studying in Trondheim but also to include non-citizen residents of Norway (Arnesen et al., 2022). As already pointed out, equality of presence does not necessarily lead to equality of voice. In addition to the power dynamics present in participatory spaces, it cannot be assumed that people recruited for their specific backgrounds necessarily represent the standpoints of those specific social groups during deliberation (Lang, 2007). This is contingent on how representation is understood and communicated in the set-up of panels, but also on whose voices citizens bring to the table of deliberation. One commonly held assumption about citizen panels is that citizens mobilised as individuals are more likely to be open to others' perspectives and think more about the collective good (Escobar, 2017). This assumption was also visible in the Borgerkraft and Trondheim Panels. The organisers assumed that citizens joined the panels as individuals, and they were only expected to come with their personal experiences and insights. Despite this, several of the panel members interviewed perceived their role as representatives for their local neighbourhoods, or as advocates of others who shared a similar standpoint. There was thus a discrepancy between how the organisers and panel members viewed their roles in terms of representation and voice.

5.2. Equality of Voice

Deliberation in citizen panels often starts with a learning phase, wherein members acquire knowledge provided by experts such as academic researchers, public officials, activists, and stakeholders on the topics at hand (Escobar, 2017). This learning phase is designed to facilitate the transformation of the "raw preferences" of panel members consisting of "narrow private interests and pre-existing knowledge and prejudices" into a well-informed and reflective understanding of the issues (Smith, 2009, p. 24). Identifying what information is important and who should provide that information largely depends on the organisers' perspectives. Their bias may thus influence the problem framing and possible solutions in ways that filter out the potential that citizen knowledge holds. On the other hand, when participants are not endowed with expert knowledge, it could result in developing unrealistic proposals or ideas that are already being implemented (Michels & Binnema, 2019). For the Borgerkraft Panel, a contracted social enterprise prepared an information package with presentations made by researchers and municipal planners. The organisers deemed these actors' knowledge vital to ensure relevance for the municipal work and for panel members to reassess their position on an issue. The Trondheim Panel similarly began with municipal planners presenting on sustainable development, detailing Trondheim's performance in specific areas. In addition, inputs collected through other methods of citizen engagement were thematised by the planners and shared with panel members in the form of keywords and inspirational questions. In both panels, the agenda was set by the organisers. They believed that sustainability, being a value-driven issue, was well-suited for deliberation by a citizen panel. Nevertheless, both the organisers and panel members acknowledged that the topic's wide scope was a challenge. In an interview, one of the Borgerkraft Panel members questioned the panel's role, pointing out that they perceived the nature of the topics discussed as practical rather than value-based. Panel members also found it challenging to make direct links between expert knowledge and their own perspectives.

Active and balanced facilitation in participatory spaces is considered essential to bring together expert and citizen knowledge, but also to prevent certain voices from dominating the discussion and encourage the inclusion of marginalised voices (Smith, 2009). The organisers of both panels recognised the importance of adept facilitation in creating a welcoming environment and a safe and open space. Similarly, some of the panel members interviewed appreciated the facilitators' role in fostering inclusivity. However, some panel members felt that the facilitators held more influence than the members. Panel members also expressed the importance of building relationships among panel members to secure a safe and open space to both develop and voice concerns. As the groups in which they worked constantly changed, this was perceived as difficult.

5.3. Outcome

The Borgerkraft project was launched as a democratic innovation experiment with few benchmarks to evaluate its success. Moreover, the lack of documentation of the panel process in terms of minutes and reports, and how the names of the panel members were kept anonymous makes it difficult to assess its outcomes. Positioned as a first-time experiment, the Borgerkraft project had limited resources for implementation and lacked a formal mechanism for taking its recommendations forward when the second phase of participatory budgeting was cancelled. In contrast, the Trondheim Panel was integrated within a formal planning process. The panel's recommendations were not only presented to the politicians and incorporated into the official plan but also made public via a digital platform. Despite these efforts, panel

members expressed uncertainty regarding the outcomes of the initiative and their level of interest in following up on the process varied. The recommendations were just one of many considered by the planners when drafting the plan. Moreover, the actual impact of the plan itself depends on how the recommendations are translated into concrete projects and measures in the future, for example, when the societal element of the master plan is developed into a legally binding land-use plan. Ensuring that the panel members' voices influence outcomes then requires their ongoing political engagement and the means and resources to do so. Studies on similar initiatives have shown that the advisory nature of citizen panels makes it easy for their outputs to be disregarded if they compete with inputs from political parties, experts, and interest groups (Smith, 2009). The difficulty in tracking decisions and outcomes of the panels makes it easy for decision-makers to selectively choose recommendations that align with their political interests (Harris, 2019). The assertion of the absence of elite conflicts and special interests in citizen panels does therefore not hold true in terms of their outcomes (Michels & Binnema, 2019).

Co-production initiatives like citizen panels may provide a range of outcomes, which should not solely be assessed by tangible plans and results. Learning can be a significant outcome, observed among both municipal staff and panel members in both panels. Furthermore, citizen panels can foster a sense of empowerment among members. However, for such participation to be considered transformative, this empowerment must translate into new ways of working together and real influence over the city's development strategies and resource allocation (Hickey & Mohan, 2004). Moreover, serious consideration must be made to how co-production can enable the sharing of diverse experiences, but also restrict arenas for dialogue and exclude the very groups that require the most democratic attention (Castán Broto & Neves Alves, 2018; Wojciechowska, 2019). This exclusion may take place in different ways in terms of presence, voice, or outcomes and is closely related to how "the citizen" is constructed as a subject in co-production initiatives such as citizen panels.

6. "The Citizen" as a Ghost Subject in Co-Production

Co-production is expected to develop new knowledge and new ways of integrating knowledge into decision-making, leading to new outcomes in the world (Miller & Wyborn, 2020). In Trondheim, the municipality pursued citizen panels as one tool to safeguard citizens' values and interests in strategies and plans and to mobilise resources for the city's sustainable development. The use of citizen panels was perceived to encompass diversity and provide better solutions to sustainability challenges. The panel members interviewed in both cases recognised the value of having discussions among a group of people with diverse backgrounds, and how that led to new ideas and solutions. They also assessed their experience as positive, indicating their willingness to participate in similar initiatives in the future if given the opportunity. However, an intersectional analysis brings to light concerns regarding how citizens were conceptualised and mobilised in the panels in ad hoc ways as isolated individuals guided by professionals. Intersectional perspectives emphasise that individual and collective identities are inseparable and that it is in their intertwined dynamic that political agency is created (Collins, 2019). Lang (2007) stresses the significance of a collective deliberation process for citizens to recognise their individual experiences as part of a larger whole, and to be able to advocate on behalf of social group interests. Therefore, she concludes "the assumption that a randomly selected group will be representative of the views of the general public can't be sustained just by looking at the demographics of the group" (Lang, 2007, p. 55). Her argument resonates with how the theory and praxis of intersectionality concentrate on analysing processes of specific

positionings and identities that "are constructed and interrelate and affect each other in particular locations and contexts" rather than conceptualising identities as something fixed and static (Yuval-Davis, 2006, p. 200).

The expectations held by the panel organisers about the citizens participating were contradictory. On one hand, they aimed to establish a panel free of group interests while, on the other hand, individuals were selected based on certain categories to form a representative group. Even though they met on several occasions, the panels were not designed to build personal relationships and create a sense of safety and trust. The panel members were treated as "atomic" individuals (Mitchell, 2005), the emphasis was on learning from "experts" on sustainability and the sessions were led by professional facilitators to have the panels serve the specific purposes set by the municipality. As illustrated in another study on smart sustainable city projects in Trondheim (Gohari et al., 2020), citizens were envisioned as learners who provided solutions or feedback that conform to the social and political norms set by the project. This means that even if equality of presence and equality of voice is perceived to be achieved in co-production initiatives such as citizen panels, the conceptualisation of "the citizen" in such processes can foreclose urban imaginaries as it does not allow for a collective political agency that challenges the premises of smart sustainable city work to form (Cardullo & Kitchin, 2019; T. May & Perry, 2017). "The citizen" is envisioned as someone who simultaneously embodies the traits of social groups but lacks decisive political agency. While they contribute valuable local insights, they are perceived to require guidance to shape "correct" viewpoints. Consequently, "the citizen" emerges as what Bjørkdahl (2020) terms a "ghost subject"—embodying the inherent contradictions and complexities of co-production. This conceptualisation of "the citizen" in co-production bears resemblance to the notion of "imagined lay persons" (Maranta et al., 2003), "imagined publics" (Sharp et al., 2015), and "imagined citizens" (Feichtinger & Pregernig, 2005), all of which highlight how citizens become functional constructs in policy processes. However, the depiction of the citizen as a "ghost subject" underscores that the ideal citizen, as imagined in many co-production processes, simply *does not and cannot exist*. Acknowledging the citizen in this ghostly role might help illuminate why co-production often falls short of its transformative potential, creating a disparity between its stated outcomes and the actual results, as observed by Jagannathan et al. (2020). An intersectional approach to understanding co-production initiatives such as citizen panels is useful in this regard, as it brings attention not only to interpersonal differences which relate to gender, ethnicity, class, and other social relations in specific contexts but also emphasises how subjects are constructed in response to structures of power present in participatory spaces. Research that builds on intersectionality to analyse participatory spaces can therefore contribute to providing much-needed critical insights by questioning not only "who participates" but also scrutinising what co-production is, what it is for, and its transformative potential. This is relevant considering the democratic aspirations of, and the significant resources spent on, co-production processes.

7. Conclusion

By analysing the efforts of a local government in Norway to co-produce smart and sustainable city strategies and plans, through citizen panels, this article reinforces the claims made by preceding research on the importance of addressing power asymmetries and political dimensions of co-production (Butzlaff, 2020; Chambers et al., 2021; Turnhout et al., 2020). The literature on co-production is burgeoning. However, most of these works adopt an aspirational and methodological stance, emphasising the significance of co-production for environmental governance and knowledge creation. They detail the "why" and "how" of

co-production but frequently overlook the reasons why such processes often fall short of their intended empowerment and societal transformation goals. An important question regarding citizen co-production is whether citizens can challenge fundamental premises that shape strategies and initiatives through their participation (T. May & Perry, 2017). This article highlights that adopting an intersectional approach to co-production can shed light on inherent discordances in initiatives that impact their democratic ideals and transformative potential. This pertains in particular to the framing of citizen panels as a means to engage underrepresented groups in decision-making processes, and how panel members are asked to deliberate on politically contested topics such as sustainability in a depoliticised manner. An intersectional approach, with its attention to relational understandings of power and identities, can advance studies on co-production by making visible the ghostly aspects of how citizen participation is imagined, to materialise and bridge the gap between the transformative aspirations and realities.

Conflict of Interests

The authors declare no conflict of interests.

References

Arnesen, S., Bentsen, H. L., Bjørseth, P., Fimreite, A. L., Ohren, A., Skiple, J. K., & Aars, J. (2022). *Hvordan gjennomføre borgerpanel* (Report No. 38). NORCE.

Arnesen, S., Fimreite, A. L., & Aars, J. (2021). Loddet er kastet: Om bruken av innbyggerpaneler i lokalpolitikken. In J. Saglie, S. B. Segaard, & D. A. Christensen (Eds.), *Lokalvalget 2019: Nye kommuner—Nye valg?* (pp. 253–283). Cappelen Damm Akademisk.

Bartlett, L., & Vavrus, F. (2017). Comparative case studies. *Educação & Realidade*, *42*(3), 899–920. https://doi.org/10.1590/2175-623668636

Bjørkdahl, K. (2020, November 9). Vi, mennesker. *Prosa*. https://prosa.no/artikler/essay/vi-mennesker

Brandsen, T., Steen, T., & Verschuere, B. (Eds.). (2018). *Co-production and co-creation: Engaging citizens in public services*. Routledge.

Butzlaff, F. (2020). Between empowerment and abuse: Citizen participation beyond the post-democratic turn. *Democratization*, *27*(3), 477–493. https://doi.org/10.1080/13510347.2019.1707809

Caniglia, G., Luederitz, C., von Wirth, T., Fazey, I., Martín-López, B., Hondrila, K., König, A., von Wehrden, H., Schäpke, N. A., Laubichler, M. D., & Lang, D. J. (2021). A pluralistic and integrated approach to action-oriented knowledge for sustainability. *Nature Sustainability*, *4*(2), 93–100. https://doi.org/10.1038/s41893-020-00616-z

Cardullo, P., & Kitchin, R. (2019). Being a "citizen" in the smart city: Up and down the scaffold of smart citizen participation in Dublin, Ireland. *GeoJournal*, *84*(1), 1–13. https://doi.org/10.1007/s10708-018-9845-8

Castán Broto, V., & Neves Alves, S. (2018). Intersectionality challenges for the co-production of urban services: Notes for a theoretical and methodological agenda. *Environment & Urbanization*, *30*(2), 367–386.

Chambers, J. M., Wyborn, C., Klenk, N. L., Ryan, M., Serban, A., Bennett, N. J., Brennan, R., Charli-Joseph, L., Fernández-Giménez, M. E., Galvin, K. A., Goldstein, B. E., Haller, T., Hill, R., Munera, C., Nel, J. L., Österblom, H., Reid, R. S., Riechers, M., Spierenburg, M., . . . Rondeau, R. (2022). Co-productive agility and four collaborative pathways to sustainability transformations. *Global Environmental Change*, *72*, Article 102422. https://doi.org/10.1016/j.gloenvcha.2021.102422

Chambers, J. M., Wyborn, C., Ryan, M. E., Reid, R. S., Riechers, M., Serban, A., Bennett, N. J., Cvitanovic, C., Fernández-Giménez, M. E., Galvin, K. A., Goldstein, B. E., Klenk, N. L., Tengö, M., Brennan, R., Cockburn, J. J., Hill, R., Munera, C., Nel, J. L., Österblom, H., . . . Pickering, T. (2021). Six modes of co-production for sustainability. *Nature Sustainability*, *4*(11), 983–996. https://doi.org/10.1038/s41893-021-00755-x

Chilvers, J., & Longhurst, N. (2016). Participation in transition(s): Reconceiving public engagements in energy transitions as co-produced, emergent and diverse. *Journal of Environmental Policy & Planning*, *18*(5), 585–607. https://doi.org/10.1080/1523908X.2015.1110483

Cho, S., Crenshaw, K. W., & McCall, L. (2013). Toward a field of intersectionality studies: Theory, applications, and praxis. *Signs: Journal of Women in Culture and Society*, *38*(4), 785–810.

Collins, P. H. (2019). *Intersectionality as critical social theory*. Duke University Press.

Collins, P. H., & Bilge, S. (2020). *Intersectionality* (2nd ed.). Polity Press.

Cornwall, A. (2008). Unpacking "participation": Models, meanings and practices. *Community Development Journal*, *43*(3), 269–283. https://doi.org/10.1093/cdj/bsn010

Curato, N., & Böker, M. (2016). Linking mini-publics to the deliberative system: A research agenda. *Policy Sciences*, *49*(2), 173–190.

Davis, K. (2008). Intersectionality as buzzword: A sociology of science perspective on what makes a feminist theory successful. *Feminist Theory*, *9*(1), 67–85. https://doi.org/10.1177/1464700108086364

Escobar, O. (2017). Pluralism and democratic participation: What kind of citizen are citizens invited to be? *Contemporary Pragmatism*, *14*(4), 416–438.

Feichtinger, J., & Pregernig, M. (2005). Imagined citizens and participation: Local Agenda 21 in two communities in Sweden and Austria. *Local Environment*, *10*(3), 229–242. https://doi.org/10.1080/13549830500075503

Floch, J., Holen, S. M., & Branlat, M. (2023). *Citizens' assembly—Case study in Trondheim, Norway*. COLDIGIT.

Frantzeskaki, N., & Rok, A. (2018). Co-producing urban sustainability transitions knowledge with community, policy and science. *Environmental Innovation and Societal Transitions*, *29*, 47–51. https://doi.org/https://doi.org/10.1016/j.eist.2018.08.001

Gohari, S., Baer, D., Nielsen, B. F., Gilcher, E., & Situmorang, W. Z. (2020). Prevailing approaches and practices of citizen participation in smart city projects: Lessons from Trondheim, Norway. *Infrastructures*, *5*(4), Article 36. https://doi.org/10.3390/infrastructures5040036

Harris, C. (2019). Deliberative mini-publics: Defining and designing. In S. Elstub & O. Escobar (Eds.), *The handbook of democratic innovation and governance* (pp. 45–59). Edward Elgar Publishing.

Hickey, S., & Mohan, G. (2004). *Participation: From tyranny to transformation? Exploring new approaches to participation in development*. Zed Books.

Jacquet, V. (2017). Explaining non-participation in deliberative mini-publics. *European Journal of Political Research*, *56*(3), 640–659.

Jagannathan, K., Arnott, J. C., Wyborn, C., Klenk, N., Mach, K. J., Moss, R. H., & Sjostrom, K. D. (2020). Great expectations? Reconciling the aspiration, outcome, and possibility of co-production. *Current Opinion in Environmental Sustainability*, *42*, 22–29. https://doi.org/https://doi.org/10.1016/j.cosust.2019.11.010

Lang, A. (2007). But is it for real? The British Columbia Citizens' Assembly as a model of state-sponsored citizen empowerment. *Politics & Society*, *35*(1), 35–70.

Levenda, A. M. (2019). Thinking critically about smart city experimentation: Entrepreneurialism and responsibilization in urban living labs. *Local Environment*, *24*(7), 565–579. https://doi.org/10.1080/13549839.2019.1598957

Maranta, A., Guggenheim, M., Gisler, P., & Pohl, C. (2003). The reality of experts and the imagined lay person. *Acta Sociologica*, *46*(2), 150-165. https://doi.org/10.1177/0001699303046002005

Marfelt, M. M. (2016). Grounded intersectionality: Key tensions, a methodological framework, and implications for diversity research. *Equality, Diversity and Inclusion*, *35*(1), 31–47. https://doi.org/10.1108/EDI-05-2014-0034

May, T., & Perry, B. (2017). Knowledge for just urban sustainability. *Local Environment*, *22*(Suppl. 1), 23–35. https://doi.org/10.1080/13549839.2016.1233527

May, V. M. (2015). *Pursuing intersectionality, unsettling dominant imaginaries* (1st ed.). Routledge.

Michels, A., & Binnema, H. (2019). Assessing the impact of deliberative democratic initiatives at the local level: A framework for analysis. *Administration & Society*, *51*(5), 749–769.

Miller, C. A., & Wyborn, C. (2020). Co-production in global sustainability: Histories and theories. *Environmental Science & Policy*, *113*, 88–95. https://doi.org/https://doi.org/10.1016/j.envsci.2018.01.016

Mitchell, D. (2005). The S.U.V. model of citizenship: Floating bubbles, buffer zones, and the rise of the "purely atomic" individual. *Political Geography*, *24*(1), 77–100. https://doi.org/10.1016/j.polgeo.2004.06.003

Mitlin, D., & Bartlett, S. (2018). Editorial: Co-production—Key ideas. *Environment and Urbanization*, *30*(2), 355–366. https://doi.org/10.1177/0956247818791931

Næss, K. S. (2020, June 23). Trondheim tester borgerpanel. *Trondheim 2030*. https://trondheim2030.no/2020/06/23/trondheim-tester-borgerpanel

Niessen, C. (2019). When citizen deliberation enters real politics: How politicians and stakeholders envision the place of a deliberative mini-public in political decision-making. *Policy Sciences*, *52*(3), 481–503. https://doi.org/10.1007/s11077-018-09346-8

Nyseth, T., Ringholm, T., & Agger, A. (2019). Innovative forms of citizen participation at the fringe of the formal planning system. *Urban Planning*, *4*(1), 7–18. https://doi.org/10.17645/up.v4i1.1680

OECD. (2020). *Innovative citizen participation and new democratic institutions: Catching the deliberative wave*. https://doi.org/10.1787/339306da-en

Refstie, H. (2022). Reconfiguring research relevance—Steps towards salvaging the radical potential of the co-productive turn in searching for sustainable solutions. *Fennia—International Journal of Geography*, *199*(2), 159–173. https://doi.org/10.11143/fennia.114596

Richardson, L., Durose, C., & Perry, B. (2018). Coproducing urban governance. *Politics and Governance*, *6*(1), 145–149. https://doi.org/10.17645/pag.v6i1.1485

Setälä, M. (2017). Connecting deliberative mini-publics to representative decision making. *European Journal of Political Research*, *56*(4), 846–863. https://doi.org/https://doi.org/10.1111/1475-6765.12207

Sharp, L., Macrorie, R., & Turner, A. (2015). Resource efficiency and the imagined public: Insights from cultural theory. *Global Environmental Change*, *34*, 196–206. https://doi.org/10.1016/j.gloenvcha.2015.07.001

Smith, G. (2009). *Democratic innovations: Designing institutions for citizen participation*. Cambridge University Press. https://doi.org/10.1017/CBO9780511609848

Smith, G., & Wales, C. (2000). Citizens' juries and deliberative democracy. *Political Studies*, *48*(1), 51–65.

Swyngedouw, E. (2010). Impossible sustainability and the post-political condition. In M. Cerreta, G. Concilio, & V. Monno (Eds.), *Making strategies in spatial planning* (pp. 185–205). Springer. https://doi.org/10.1007/978-90-481-3106-8_11

Trondheim Municipality. (2019). *Den samskapte kommunen Trondheim* (Case No. 18/16776). https://sites.google.com/trondheim.kommune.no/samskaping/start

Turnhout, E., Metze, T., Wyborn, C., Klenk, N., & Louder, E. (2020). The politics of co-production: Participation, power, and transformation. *Current Opinion in Environmental Sustainability*, *42*, 15–21. https://doi.org/https://doi.org/10.1016/j.cosust.2019.11.009

Whittington, O. (2022). *Democratic innovation and digital participation*. Nesta. https://www.nesta.org.uk/report/democratic-innovation-and-digital-participation-report

Wojciechowska, M. (2019). Towards intersectional democratic innovations. *Political Studies*, *67*(4), 895–911.

Young, I. M. (2001). Activist challenges to deliberative democracy. *Political Theory*, *29*(5), 670–690.

Yuval-Davis, N. (2006). Intersectionality and feminist politics. *European Journal of Women's Studies*, *13*(3), 193–209.

About the Authors

Leika Aruga is a PhD candidate at the Department of Interdisciplinary Studies of Culture and a member of the Centre for Gender Research and the Centre for Technology and Society at the Norwegian University of Science and Technology. Her PhD project uses intersectionality to critically examine inclusionary and exclusionary dynamics of citizen participation in physical and digital spaces in the context of urban development. Her PhD project is carried out under SustainDiT, a project in the Interdisciplinary Sustainable Initiatives at the Norwegian University of Science and Technology.

Hilde Refstie is an associate professor in geography at the Norwegian University of Science and Technology. Her work centres on participatory urban governance, citizenship, inequality, and forced migration in conflicts and disasters. Refstie has worked for more than a decade in Uganda, Malawi, Ghana, and Norway at the interface between academia and practice using participatory methods and action research.

Hilde Nymoen Rørtveit is an associate professor in human geography at the Norwegian University of Science and Technology. She does research on participatory planning, urban marginalised communities, and how various sustainability agendas shape planning processes on the ground. An overarching interest is in the intersections between policy, planning, and people's everyday productions and mobilisations of landscapes.