frontiers | Frontiers in Sustainable Cities

ORIGINAL RESEARCH
published: 20 July 2022
doi: 10.3389/frsc.2022.885951

Delivering Blue-Green Infrastructure: Innovation Pathways for Integrating Multiple Values

Lizet Kuitert and Arwin van Buuren*

Department of Public Administration and Sociology, Erasmus University Rotterdam, Rotterdam, Netherlands

Realizing a multifunctional blue-green infrastructure (BGI) as a nature-based solution for the urban water system and built environment within crowded city areas is seen as a promising route for the process of climate adaptation. BGI projects like rain gardens, green roofs, and water squares can be combined to achieve a variety of technical (drainage), environmental (biodiversity), economic (property development) and social (health and wellbeing) goals and values at a local neighborhood level. As integrating such values within local governments' existing fragmented structures and procedures has proved to be challenging, urban governments are increasingly experimenting with innovative governance approaches at different levels to capitalize on the multiple benefits of BGI. Nevertheless, policy actors who try to justify their choices in the face of value conflicts are both constrained and enabled by the institutions they can call on. Using a qualitative comparative case study, this article therefore aims to gain insight into different ways of, or approaches to, organizing value integration. In particular, we compare: (1) a top-down case of programmatic steering to translate value integration into a neighborhood approach; (2) a market-oriented innovative procurement approach to local public-private partnership projects; and (3) a case of invitational governance for a future-proof neighborhood that is striving for a sense of citizen ownership. Our findings demonstrate the conditions, drivers, and barriers to the value integration of different governance innovations in relation to time-related issues, the types of support available, organizational embedding, and stakeholder involvement. Our specific focus is on understanding how social and sustainability and spatial and technical values are integrated. This paper thus helps us to get to grips with different pathways to value integration in the context of urban infrastructures, as well as their applicability and the conditions for success. These insights will enable the further strengthening of our capacity to build climate-proof cities in a value-driven and integrative manner.

Keywords: governance innovation, value integration, blue-green infrastructure, hybridity, ambiguity, climate-resilient, multifunctional urban planning

OPEN ACCESS

Edited by:
Lise Herslund,
University of Copenhagen, Denmark

Reviewed by:
Bernadett Kiss,
Lund University, Sweden
Monika Trojanowska,
University of Technology and Life Sciences in Bydgoszcz, Poland

****Correspondence:***
Lizet Kuitert
kuitert@essb.eur.nl

Specialty section:
This article was submitted to Innovation and Governance, a section of the journal Frontiers in Sustainable Cities

Received: *28 February 2022*
Accepted: *20 June 2022*
Published: *20 July 2022*

Citation:
Kuitert L and van Buuren A (2022) Delivering Blue-Green Infrastructure: Innovation Pathways for Integrating Multiple Values. Front. Sustain. Cities 4:885951. doi: 10.3389/frsc.2022.885951

INTRODUCTION

Climate change and urbanization test the resilience of our cities, putting additional pressure on the already complex challenges they face and intensifying the burden on limited resources and space (Head and Alford, 2015; Trein and Maggetti, 2020). These challenges are multidimensional and therefore require new urban-planning solutions, for infrastructure and public spaces.

Multifunctionality is an emerging concept, and one such approach to climate-change challenges is blue-green infrastructure (BGI). These projects are a form of nature-based solution and include "a wide range of measures aimed at protecting and resorting natural ecosystems in urban areas" (Sharifi et al., 2021, p. 3). Nature-based solutions can occur at different scale levels: "from the individual building scale (e.g., green roofs), to the neighborhood scale (neighborhood parks, bicycle lanes), to city-wide networks of green and blue spaces" (Sharifi et al., 2021, p. 6). In terms of (B)GI, this is understood as adopting green, vegetated infrastructure in water systems (Kiparsky et al., 2013; Deletic et al., 2020; Nieuwenhuis et al., 2022). BGI can encompass a wide variety of spaces, such as green roofs, water plazas, or rain gardens that aim to make cities more climate-proof, while also benefiting society in many other ways (Willems et al., 2020; Choi et al., 2021). BGI aims to (re-)create the natural water-cycle, as seen in physical interventions like green roofs, pocket parks, and permeable pavements. –BGI projects not only offer technical solutions for water management (e.g., improving urban drainage), but can also enhance the environment (e.g., biodiversity), the spatial quality of the lived environment, and social aspects (e.g., social inclusion and health/wellbeing), as well as bring economic value (e.g., property prices) (Raymond et al., 2017).

BGI projects are thus promising examples of value integration, which means the coming together of different values of different stakeholders for the benefit of society, making our world more secure, smart, shared, sustainable, and satisfying (Visser, 2017). The multidimensional nature of climate-adaptation issues brings value-integration challenges. Essentially, fundamental values like technical orientation and cost-effectiveness are being expanded to include novel ones on social and sustainability values, and infer a need for new behaviors by public employees, their leaders, and the system as a whole (Kuitert, 2021). The success of policies to combat climate change depends largely on the extent to which they are "integrated" with other sectoral strategies based on different value perspectives (Tosun and Lang, 2017). Accordingly, more attention need to be paid to governance innovation. New governance approaches like "joined-up-government" and "whole-of-government", have been developed to address horizontal policy problems holistically (Christensen and Lægreid, 2007). Nevertheless, policy actors who try to justify their choices in the face of value conflicts are both constrained and enabled by the institutions available for them to call upon (Thacher and Rein, 2004). Combining newly emerging approaches to administrative innovation with traditional systems of governance leads to both external and internal hybridity, as well as ambiguity for management and leadership (Mair et al., 2015; Caldwell et al., 2017). As a result, achieving value integration in BGI projects has proved to be difficult (Rauken et al., 2015; Oseland, 2019) and until now, our understanding how different values come together in decision-making is limited and spread across various parts of the literature on, e.g., policy controversies or collaborative governance (Thacher and Rein, 2004; Ansell et al., 2017). On the one hand, quite a lot is known about the top-down bureaucratic approaches used for value integration, including through policy integration (Candel and Biesbroek, 2016), reforms to administrative coordination (Trein et al., 2021) or integrated spatial planning (Vigar, 2009; Pozoukidou, 2020). On the other hand, it has proved to be challenging to integrate values within the traditional task-oriented and segmented structures and procedures of local governments. Previous research has argued that no consensus exists on what value integration actually is and how it is achieved (Keast et al., 2007). Consequently, urban-government departments are increasingly experimenting with governance innovations at different levels: (1) strategic, with horizontal value integration and government participation (Van Buuren et al., 2016; Edelenbos et al., 2017a); (2) tactical, with sustainable procurement (e.g., Grandia, 2015); and (3) operational, with social innovation as a bottom-up form of value integration to capitalize on the multiple benefits of BGI (Karré, 2018; Pel et al., 2020). In this context, Keast et al. (2007) argue that a failure to understand the attributes of the various integration modes, or to adequately match their mechanisms and processes with the stated purpose and context, has contributed to the limited success of integration strategies.

The purpose of the present research is to gain insight into different ways of, or approaches to, organizing value integration. The paper first outlines the theoretical background of three different forms of governance innovation for realizing value integration in BGI projects. The subsequent methods section describes a cross-case study containing three examples that represent different pathways in different positions on the continuum between bureaucratic and social innovation. In particular, we compare: (1) a top-down, or government-centered, case of programmatic steering to translate value integration into a neighborhood approach; (2) a market-oriented, innovative procurement approach to a local public-private partnership project; and (3) a case of inviting governance for a future-proof neighborhood that aims to achieve a sense of citizen ownership. These cases all involve technical and physical BGI outcomes combined with social stakeholder integration goals. We analyze the ways in which these different approaches help to realize (and sustain) the multiple values of BGI. The findings section does not concern any assessment of these approaches, but rather a conceptualization of the differences in the value-integration pathways, interpreting and appraising them in their specific context. The paper thus helps us to achieve an understanding of different pathways to value integration from the perspectives of urban infrastructures, their applicability, and the conditions for success. Finally, we discuss how these insights further strengthen our capacity to build climate-resilient cities in a value-driven and integrative manner.

GOVERNANCE INNOVATION FOR VALUE INTEGRATION

Successful multifunctional, climate-resilient and sustainable urban-planning projects requires them to be conducted in a context where there is increasing interdependence and actors must coordinate their activities when drafting interventions that impact multiple other goals and values. Governments

have to work with numerous parties with different interests, viewpoints, knowledge gaps, and uncertainties in relation to both the climate and society. Moreover, the resources available for implementation are distributed across a wide variety of actors. Most studies on the integration of a multiplicity and/or plurality of values focus on the network level by discussing hybridized forms of governance (Torfing and Triantafillou, 2013); more specifically, the collaborations and conflicts that can arise *between* organizations with different strategic goals and interests. Research that focuses less on network dynamics or collaborations between different actors, and more on the internal aspects of governments and how they deal with the need to integrate different values are emerging (Laegreid, 2016; Kuitert, 2021). In this paper, following Fossestøl et al. (2015, p. 290), hybridity is approached in terms of "the ability of organizations to incorporate elements from contradictory institutional logics over time, and thus as the organizational processes through which this incorporation is managed." In hybrid constellations, therefore, public actors must somehow unite their core values (i.e., organizational cultures) and combine conflicting: institutional logics; bureaucratic and community logics (traditional public administration—TPA); market or commercial logics (new public management—NPM); and network logics (new public governance—NPG) (Nederhand et al., 2019).

In urban planning, multifunctionality is based on "the variety of services provided by the space in service of economic, social, and environmental requirements" (p. 206). Applied to BGI, core values in urban water management, such as reliability and cost-effectiveness, have to be connected to different logics, e.g., spatial or economic, as well as to a "social" logic for the delivery of multiple economic, social, and environmental benefits (Hansen et al., 2019; Van Zyl et al., 2021). In the literature on planning, it is acknowledged that future-proofing the built environment requires shifts in the values and goals guiding the management of cities, as well as adjustments to the institutional frameworks contextual to decision-making (Carmin et al., 2012). In traditional forms of water management, the technical department within the governmental body, with a focus on water safety, often takes the lead. In delivering traditional gray infrastructure, technical and spatial values have been prominent (Raymond et al., 2017), e.g., drainage and alignment between the underground and aboveground space. The different spatial claims have become more elaborate with the growth of BGI, since it also claims space for social (e.g., an inviting living environment *via* sports' fields), sustainability (e.g., creating awareness through water features in playgrounds or water squares), and other spatial values (e.g., more greenery). Such a comprehensive system requires the involvement of multiple disciplines and stakeholder groups, which in turn bring their own value systems to the process (Kuitert, 2021). The sphere of urban water management has to bridge internal government-policy domains, including health departments and urban planners (Wamsler et al., 2020). Health benefits associated with reduced air, water and noise pollution, and mental/physical health benefits more generally, are also taken into account (Sharifi et al., 2021). Economic advantages are also apparent, e.g., in relation to property values and energy savings (Choi et al., 2021). Green infrastructure is also used in cities' branding strategies, which emphasize the different sustainable, social and health co-benefits (Anguelovsk et al., 2019).

This value integration can be achieved through different types of managerial innovation that involve diverse forms of hybridity; or, in other words, it can be achieved through different types of governance innovation *alongside* technical innovation. In this paper, we distinguish between: (1) top-down bureaucratic innovation followed by implementation; (2) innovation in public procurement for projects where responsibilities for implementation and management are shared within public-private partnerships; and (3) bottom–up social innovation that aims to generate societal support during the process of project delivery. There can be various forms of value integration in these different types of governance innovation, e.g., policy-based, project-based, and stakeholder integration.

Bureaucratic Innovation and Policy Integration for Blue-Green Infrastructure

Studies on how to deal with the multidimensional nature of transitional issues like climate adaptation usually focus on matters of policy integration, defined as—"policy-making in certain domains that take policy goals of other, arguably adjacent, domains into account" (Tosun and Lang, 2017, p. 559). This could occur either horizontally (between domains on the same level, e.g., urban) or vertically (linking the (supra-)national, regional and local levels with each other) (Hertin and Berkhout, 2003). In this paper, policy integration is treated as an activity taking place at the strategic decision-making level. Consequently, incorporating values *via* forms of policy integration can be viewed as a kind of administrative or bureaucratic innovation which must then find its way through the organization to be implemented.

In the context of BGI, this is not as simple as it looks. BGI is usually a responsibility of the urban-drainage domain (urban water management) at a local government level (Farrelly and Brown, 2011). Traditional water management, where the government is the main initiator, financier, and definer of the measures undertaken, is dominated by classical, democratic, and bureaucratic values relating to public authority, legality, efficiency, and impartiality (Edelenbos et al., 2017b). Traditional public management, meanwhile, is characterized by procedural values whereby integrity indicates the quality of the process, along with associated values like transparency, equality, lawfulness, and honesty (De Graaf and Paanakker, 2015; Smets et al., 2015).

In justifying why more attention is paid to one value at the expense of another, rules and conventions, or fixed decision-making structures organized by jurisdictions and provided by the institution, help policy actors to protect certain standards when values conflict (Thacher and Rein, 2004). Within this top-down policy integration, positions of power are often protected by a technical approach whereby measurability in models ensures justification (Ford et al., 2019). At the bare minimum, policy integration can, e.g., lead to less duplication between domains. In this case, value alignment takes place and

concerns the parallelization of a system using the similarities of standards to structure it, and in which compatibility is increased and standards are combined in a management document (Jørgensen et al., 2006). While this degree of integration combines values, separate procedures nevertheless remain in place. More ambitious policy integration can lead to wholly institutionalized interactions between domains that develop priorities and strategies mutually (Cejudo and Michel, 2017). This next step toward integrated management takes place *via* internal coordination that aims to reduce possible trade-offs. However, this brings about a "weighted balance" in values, which could quickly degenerate into the pursuit of the sum of individual customer desires (Stoker, 2006).

Procurement Innovation and Project-Based Integration for Blue-Green Infrastructure

Over the past decade, the public sector has undergone increased "projectification" in order to adhere demands for interorganizational collaborations and more efficient governance and organizational structures. This means that public sector services that have traditionally been delivered by permanent bodies are now increasingly provided *via* individual projects trough procurement (Godenhjelm et al., 2015; Hodgson et al., 2019). In today's complex society, such projects are often developed in public-private partnerships. Procurement commonly takes place at a tactical, decision-making level. The involvement of public bodies in these partnership arrangements means that they withdraw from the direct delivery of services, instead separating out regulatory and operational functions (Steenhuisen et al., 2009). In doing so, they must then rely on the capabilities of other, often private, organizations to produce the much-needed process and product innovations identified.

Traditionally, the technical initiating and contracting departments responsible for BGI have had structures and tools in place for project-based integration. In contrast, NPM has a formal focus based on legal and contractual arrangements, transactions and bargaining (Keast and Hampson, 2007). In the project-management literature, research into value and value creation has mainly focused on general project-performance achievements in terms of efficiency, effectiveness and other, more commercial, values (Martinsuo et al., 2019). Using market logics, the basis for the strategy is profit maximization (Smets et al., 2015), with performance values (organizational—business-like) like effectiveness and efficiency dominant.

Incentive structures are used to achieve policy objectives *via* procurement innovation, especially through the use of markets and, increasingly, with social partners and the participation of residents (Bryson et al., 2014). In public-private collaborations, one ideally expects governance arrangements to reflect the requirements, aspirations, and sanctions of all the sectors involved, since all partners bring their own value palettes to the process (Stafford and Stapleton, 2017). Public clients are thus involved in achieving the goals of both the "permanent" public-commissioning organization and the "temporary" project-related network of public and private parties (Hobday, 2000; Eriksson, 2013). In project management in the construction industry, there is an ongoing shift away from rational-technical approaches to decision-making, planning and implementation. This builds on existing—more traditional and contractual—governance value systems, moving toward approaches that capture the complex and dynamic aspects of projects that open up opportunities for newer forms of governance (Bygballe and Swärd, 2019). This is in line with Bryson et al. (2014), who also suggest that the renewed emphasis on public values advocates more contingent, pragmatic kinds of rationality, going beyond the formal rationalities and leading to a more holistic way of creating and sustaining values.

Social Innovation and Stakeholder Integration for Blue-Green Infrastructure

A recent, promising approach explored by local governments as a way to achieve value integration is social innovation (Karré, 2018; Pel et al., 2020). This is predominantly aimed at improving social outcomes and creating joint public value in interactions with citizens, societal actors, and governmental agencies (Wittmayer et al., 2020). Social innovation (SI) refers to new approaches to dealing with societal challenges, and comes about through networks and joint action in social domains, outside the systemic world of government and the business logic of the corporate industry (Karré, 2018). Internally, SI means the crossing of boundaries, i.e., the integration of different policy domains within local governments; externally, it means creating compelling new relationships through greater stakeholder involvement at an operational level (Mulgan et al., 2007).

Social innovation goes beyond crossing different governmental boundaries, providing another pathway to value integration by engaging different stakeholders with connections to a variety of value systems: from public institutions under public procurement law, to public and private organizations in their socio-technical environment, and to residents in their societal context (Wittmayer et al., 2020). This resonates with the third, more collaborative or joined-up, mode of public management, which is commonly referred to as NPG), in which market and community logics are ultimately combined for the purpose of achieving added value (Smets et al., 2015). SI combines technical, social and economic objectives through which governments strive to achieve broader goals for both public and private parties (Karré, 2018). In the case of BGI in particular, SI has profound implications for the local governments that are typically responsible for urban water management, which has to bridge policy domains internal to the government, including health departments and urban planners (Wamsler et al., 2020). On the other hand, the urban water-management domain has to build compelling new relationships with the private sector and civil society, as BGI is typically constructed above the surface and is, therefore, often also located on private property.

Pursuing SI for BGI enables local governments to integrate the different value dimensions of the multifunctional BGI. Value integration like SI is primarily aimed at improving social outcomes and creating public value by combining technical,

social, and economic objectives which together form new functionalities that move beyond technical urban drainage (Karré, 2018; Willems et al., 2020). It is only when the whole is greater than the sum of the parts (added value) that there is full value integration, which can be achieved by creating a culture of learning, stakeholder participation, and continued improvement (Jørgensen et al., 2006). To this end, network-type partnerships are being established. In these alternative forms of collaboration, in which the government facilitates external initiatives, other administrative values like customization, flexibility, and effectiveness are more important (Edelenbos et al., 2017b). Added value is achieved when the integration of values leads to enhanced value for each objective within the integration (Stoker, 2006), which is the case if the multifunctionality of BGI is realized.

METHODS

Cross-Case Study

Our study explores the conditions, drivers and barriers relating to the value integration of different governance innovations. To this end, a qualitative research approach was employed in the form of a cross-case study at three municipalities; (A) Dordrecht, (B) The Hague, and (C) Rotterdam. In-depth, case-study research enables the collection of context-specific knowledge (Yin, 1994), which is crucial for increasing our understanding of different pathways to value integration. An interesting research context is the construction industry, which has a crowded, complex, and contested policy arena, where various mechanisms and alternative values and goals must be considered and accommodated (Kuitert, 2021).

The case selection was theory driven, with the three examples representing the different value-integration governance innovations—bureaucratic, procurement, and social—that each reflect a potential for value integration (i.e., aligned, combined, weighted, and added). In order to investigate the specific value-integration dynamics and outcomes, the cases all involve smart management in urban development. All of the studied municipalities engaged in governance innovation by creating public value in the form of BGI, achieving climate-adaptation goals through technical, spatial, or social activities at the interface of government, markets, and society. In doing so, value integration was pursued *via* the translation of program, procurement, and process goals at the local level. **Table 1** gives an overview of the cases. Most BGI value-integration challenges occur between more traditional technical and spatial values, rather than social and sustainability standards, and we have therefore selected cases in which these tensions are apparent. Consequently, there is maximum variation in the cases' independent variable—governance innovation, (Flyvbjerg, 2006).

Case A: Bureaucratic Innovation

Case A concerns an (internal) programmatic approach toward the implementation of multiple policy goals in various neighborhoods. Executing this has involved the development of both a "programming table", in which opportunities are explored for co-benefits to be translated into projects at the neighborhood level, and a neighborhood approach, in which a measurement that is integral to urbanism and inclusive processes is pursued. Programming meetings decide which projects could be adapted to a neighborhood approach and, with this, optimize the co-benefits of a specific project. When a neighborhood approach is proposed, the input of an area/neighborhood manager may be useful.

We specifically examined a blue-green department dedicated to creating a "climate-sensitive city" in relation to its agenda-setting role within the programming table and its interactions with other departments. The actions and measures that were part of this vision focused on improving the quality of the public space by bringing nature and water close to the homes of residents. This was achieved by adding, using and connecting the green and the blue (from facade gardens to green lanes and city parks, and from water gardens to city ponds respectively). To analyze the implementation impact of the blue-green vision, we took into account one specific "project/assignment" to which the neighborhood approach was applied. In this specific project, smaller neighborhood activities like greening gardens were combined with a multifunction park, with goals relating to climate adaptation, biodiversity, recreation, and public health. Internal and external social partners (e.g., an NGO and a sports council) were also involved, with plans to enable them to achieve their own goals.

Case B: Procurement Innovation

Case B concerns a pilot project for a new municipal policy that aimed to adopt an innovative participatory approach in which collaboration and social returns were key. A tendering board was set up to discuss and assess plans before they were officially announced as tenders. These discussions centered on whether the proposals reflected various policy goals, and whether there were any missed opportunities with respect to co-benefits.

The project concerned an urban redevelopment project, where the goal of the municipality was to transform a typical public square, with a playground and a simple petting zoo in a somewhat problematic neighborhood, into a true municipal park, with climate adaptation measures in place in the form of green water buffers. The park needed to have a wide appeal that would boost the reputation and quality of the urban living environment of the entire area. In view of an aim to ensure procurement innovation in an actual physical scheme, a public-private project network was established to achieve lofty social goals regarding the Social Return on Investment (SROI in Dutch) and socially responsible procurement (MVI in Dutch). Next to a municipal project team, A group of local small and medium-sized enterprises were able to sign up to participate in a tender pool with a view to eventually being awarded one of the contracts available for the design and/or execution of the project. A resident panel was also established to represent various inhabitant groups during the design and procurement process, and two assistant project managers were appointed by the municipality to act as intermediaries. The three project managers formed the core of a heterogenous project team.

TABLE 1 | Introduction to the case studies.

	Case A **Bureaucratic innovation**	**Case B** **Procurement innovation**	**Case C** **Social innovation**
Integration pathway	Program management (hierarchy)	Innovative procurement: innovative participatory approach (market)	Inviting governance (network)
Organizational level	Programming meeting (strategic)	Tenderboard (tactic)	Core team (operational)
Neighborhood level	Neighborhood approach	Tenderpool and resident panel	"Movement"
Integration perspective	Broadening physical with social	Physical as a tool for social (leverage)	The physical adjustments are used to create social impact
Sustainability objective	Climate adaptation translated into Blue Green Task	Climate adaptation subsidy used for spatial development	Broad sustainability objective (people, planet, profit)
Social objective	Involving internal and external social partners in programming decision making	SROI (social return on investment) + MVI (socially responsible procurement) + participation	From top-down to bottom-up movement: ownership, empowerment

Case C: Social Innovation

Case C concerns a neighborhood development established to respond to multiple transitional challenges, including the energy evolution, a circular environment, and digitalization. Through various small adjustments, such as the greening of streets and making parking spaces permeable, the goal was to become an example of a future-proof neighborhood: "Circular, sustainable and truly green." In addition to sustainability, circularity, data, and livability there were four more "social" goals: (1) bridging the generation and culture gap; (2) leveraging talents; (3) healthy family budgets; and (4) a healthy lifestyle. The case was a pilot scheme in a process of organizational change in which novel ways of working were being implemented. It was also a "testing ground" for new management principles, in which the aim was to encourage, enable, and actively invite residents to, as far as possible, take charge of managing the neighborhood themselves. The municipality contained a movement of enthusiasts who were putting this new way of working into practice on the basis of the principles of (1) "smart management", in which physical adjustments are used to create a societal impact, and where liveability comes first and sustainable energy is key, and (2) "intrinsic motivation". These enthusiasts had many goals, and were "on a journey" and showing their commitment to residents. There was, however, uncertainty concerning the extent to which this resident "activation" could be realized, especially around issues of social transition like energy, circularity, and technology.

Data Collection

Different types of data were collected for each case to allow for source triangulation, and to enable us to draw a distinction between self-reported and actual behavior and official documentation. Formal and informal interviews, observations, and documents were all utilized (see **Table A1** for an overview). This data combination allowed us to assess how civil servants are confronted with hybridization and value tensions relating to the implementation of governance innovations. In terms of the interviews, key public and private actors were recruited for each case. In total, there were 65 semi-structured interviews that lasted for, on average, between 45 and 90 min. They were all recorded and transcribed verbatim. Documents were also obtained and analyzed. These comprised documents that were cited in the interviews, often acquired with the help of the interviewees themselves; and additional documents, which were selected based on the values that requiring integration and the type of governance innovation. In terms of the observations, we witnessed gatherings and meetings involving actors from various domains and departments, and in some cases also private and societal stakeholders. This enabled us to undertake a thorough analysis. Notes were made of all the activities we observed.

We conducted a secondary analysis of three cases that had been part of previous studies. This explains the differences in the size of the datasets in terms of the number of interviews (Case A: 15; Case B: 34; Case C: 16) and the observations. In relation to the latter, the observations conducted for cases B and C were more extensive, since we had attended various meetings of multiple key teams for the earlier research. Only one meeting of a key team was observed for Case A, as this type of meeting had only been taking place for a short period of time; for Case B, there were more informal observations, which occurred when we visited the site of the pilot scheme. The datasets from the previous studies were carefully examined to ensure that they were appropriate for our work. Consideration was also given to the research question and the purpose of the primary study, as well as to who had carried it out, enabling us to consult and gain access to these scholars (Johnston, 2017). Our research question fit well with those of these original studies, since each of them had a focus on trying to understand new ways of working (governance innovation) and the impact on both the public organization and the private and/or societal partners. Each of the primary case studies had a process research component, where process data (stakeholders involved, phases and steps, considerations, and applied governance approaches, roles, and management techniques) was collected by either looking back at or following the process for a period of time. The first author was the principal researcher for the primary study involving cases A and B; the second author played a role in the primary study for

Case C. The principal researcher was also consulted to discuss the potential use of the dataset for the current study.

Data Analysis

Examining pathways to value integration required us to understand the decision-making and governance processes behind the pursuit of value creation. A strong process orientation helped us to provide important, context-sensitive insights into how practitioners are enabled and constrained in their strategic actions and decisions by wider organizational and/or social practices (Vaara and Whittington, 2012). We used a qualitative content analysis (Flick, 2013) to examine what happened with both climate-adaptation and wider societal goals when the multifunctional BGI projects were delivered *via* different forms of governance innovation. We specifically focused on understanding the integration of social and sustainability values with spatial and technical values. The views of the participants were found to be complementary, together providing a detailed and multifaceted picture of the conditions, drivers, and barriers concerning value integration by way of the different modes of governance innovation.

RESULTS: CONDITIONS AND DRIVERS FOR VALUE INTEGRATION

Timely Involvement of Non-traditional Stakeholders

The integration of values in public-service delivery requires different decision-making perspectives. Decisions with the most impact are traditionally made in the early stages of the process. Findings show that in various governance innovations, by the early involvement of social and sustainability actors, which are the most interdependent of the domains, an environment is created that supports non-standard interactions between relevant actors. It has been shown that—for interactions between the government level and the neighborhood level in particular—the early involvement of various internal and external stakeholders provides a broader view of the opportunities to combine technical, social, and spatial tasks, thereby forming the foundations of each of the value-integration pathways.

Case A saw various city-management departments meet to discuss strategic planning for different projects and to align their work schedules, as far as possible, to reduce any inconvenience caused to residents; an example of this is achieving efficiencies by planning to carry out work at the same time, thereby obviating the need to repeatedly dig up a street in order to, e.g., introduce climate-adaptation measures or manage social problems at the neighborhood level. Traditional city-management departments, such as sewage and road construction, were represented at these programming meetings, as were, e.g., departments relating to physical and social neighborhood-management that normally become involved later in the delivery process. This approach provided an opportunity to align technical and spatial aims with social goals, which can otherwise often lead to value trade-offs in later stages of the process. The overarching goal is to move beyond mere alignment, in particular by increasing the social impact of physical and technical planning, as can be seen in the memoon the implementation of the programing plans for the public space.

> *Using the MIP tool [a digital mapping tool], additional initiatives, projects, concerns, or ambitions that could potentially be part of this project are reviewed. These may be items that aren't a priority, but will require attention if work is to take place at that location. These ambitions and needs should be available on the map in the MIP tool (with reference to contact person). (Memo on the implementation of the programing plans for the public space)*

In Case B, a far-reaching form of participation was decided at an early stage. This decision was made mainly at the political and policy level, where an alderman with social goals took the lead. As a result, a very broad project team was appointed to expand on this far-reaching participation in a pilot scheme at the neighborhood level. In addition to more traditional roles, such as project manager and urban planner, this team also included a communications consultant and a neighborhood broker. This led to non-traditional discussions among the team and the exploration of new possibilities, which brought with them opportunities for value coordination. As an example, much attention was paid to possibilities around SROI, which normally takes shape at the implementation stage and is carried out by the contractor with the support of the municipality's job center. Another example in this case was the early involvement of internal-assessment institutions. In setting up the innovative participatory process, one of these bodies, the public-space advisory committee (ACOR), was invited in at an early stage to inform and make recommendations regarding opportunities for value integration that would ensure compliance with restrictions in future assessments. This opened up ways to create added value:

> *"Hopefully, it also has to do with the fact that we approached and engaged ACOR during the early stages, even before we got started. We asked them to tell us about the general lines that we had to consider." (Interview with urban district-manager at the municipality)*

In Case C, various types of communication emphasized the need to create space for sustainability values (both physical and social) in the decision-making process. In this case, there was no clear idea about the involvement of public actors, other than wanting a diverse team. Diversity was sought in relation to a variety of personal characteristics, along with a common drive to look beyond the line organization. The adaptability of the pathway (ambitions, but no elaboration on how to get there), as well as the actors involved, was embraced by viewing the process as a "joint journey". This enabled the co-linking of different initiatives along the way.

> *With that, physical co-linking opportunities are primarily sought when there are direct plans for the neighborhood in question. A logical choice. The exception to this pragmatic approach is [name project]. In [name project], a process has already been started in preparation for the sewer replacement. In the planning, space*

has been provided from the sewer replacement to work on the construction of a heat network. (Research report, summer 2020)

Institutional Support

Our findings highlight how, if value integration was to be achieved, the municipalities depended on embedding values from value-integration objectives in policies at the national, regional, or organizational levels of government, which stresses the importance of an (informal) form of vertical policy integration. Although each of the cases' governance innovations included connections to both the parent organization (as part of its governance structure) and the project organization, another type of institutional embedding was also prominent: the findings show that each of the cases was related in different ways to the city-wide concept of smart-city management, which also plays a part at the regional and national levels. In all three cases, the support at a higher level appeared to be crucial for the implementation of the value-integration pathways.

In Case A, e.g., a specific blue-green vision was created as the translation of a national plan (a collaboration between different municipalities) concerning spatial adaptations for climate change. This vision was adopted by directors and described as important for ensuring there was alignment with the city as a whole. This proved to be a key success factor for the projects through which this integrated program was implemented.

"It's not that hierarchical. But if it's propagated there, then it's a lot easier. Because, otherwise, you have to get it on the agenda yourself, or even the district." (Interview with social neighborhood manager)

In Case B, the construction of a city park with high social-return ambitions even had support at the local political level. The initiative and the support for the innovative participatory approach came from a local alderman who wanted to boost his relatively poor neighborhood. The political support created a sense of urgency and—although temporary—increased the attention paid to the project and the social-return goals.

Elements that the alderman would like to see in the community park include a kind of bandstand and the planting of a special (large) tree. (Council letter on redesigning the district park [name] and the meaning of procurement law)

In Case C, the emphasis was on the movement's separate status as an example of what the new municipal city-management team should look like. However, despite the pilot status, our findings show the importance of ties with the organization's strategic levels. The role of one of the civil servants in particular was mentioned often. A certain "two-leggedness", i.e., a "dual role", for this individual was considered to be crucial to the project's success. This civil servant combined a directive-type role in the line organization with a role in the project's core team. This was especially beneficial to the capacity to adopt an exploratory approach in which trust in terms of responsibility provided space for experimentation.

"With [name], it was less wobbly because then, because of her position, she was more embedded in the standing organization; for example, when it comes to entering into a dialogue with the area committee. Then you need a strong manager who says: 'it's an open discussion, we're not promising anything'. You need pillars who are willing to carry it". (Interview with one of the movement's core-team members)

Trust Based on Experience and Expertise

Another driver of value integration in these governance innovations was informal accountability associated with social innovation. This relates to having a strong personal influence on, in particular, the social-spatial integration of values. Overall, trusting certain public actors gave them the "freedom" needed to explore opportunities for value integration. Our findings demonstrate the reliance on specific heterogenous (groups of) public actors and other stakeholders to ensure that the balance was "right" between social and sustainability values and technical and spatial values.

In Case A, this was mostly prominent in the composition of the group responsible for the programmeeting, where the emphasis was on ensuring that the *"best"* people were members, i.e., those with experience and knowledge of the city. These public actors had to, ultimately, weigh up whether or not an integrated approach should be adopted for a project and to what extent and which values could then be combined in an integrated approach. These actors were part of the group attending meetings primarily on the basis of their expertise, but were expected to be able to make broader assessments and to be open to other interests. Their superiors did not give them a clear assignment or preconditions, but trusted their decision-making instead.

'That has to do with the fact that the people who go to the time-table [meetings], those are my very best people. So, they know incredibly well what's going on in an area...More than ten years of experience with the municipality, in a coordinating role in their field. So, there are a few figureheads, sitting there together". (Interview with the cluster-manager for neighborhoods and member of the program time-tabling group)

Something similar was seen among the tender board in Case B, where upcoming assignments were discussed and judged before they were officially announced as tenders. The main focus of the assessment was to take into account, where possible, issues of sustainability (technical, physical and social). The findings show that risks and prices remained important decision-making criteria, while other public value-related ambitions were also pursued. Here, too, the public actors represented their own expertise and, thus, their department. However, they had to assess tendering strategies for all kinds of assignment, including those about which they did not necessarily have adequate levels of knowledge. It must therefore be taken on trust that they are experienced enough and smart enough to understand the submitted strategy and to ask those behind it enough questions to enable them to make a judgment.

In Case C, it was even stressed that there was no clear accountability. This allowed members of the movement's core

team to discuss and examine all kinds of opportunities to integrate their interests, if possible.

> *"[project name] is a great initiative, because they work based on the energy in the individual. Normally, we work on a commission basis, not on an enthusiasm basis. But that's not how innovation gets started. (Interview with movement's core-team member)*

This did not, however, necessarily lead to significant levels of integration, as there was a risk that the process would become an accumulation of small projects, each of which had one specific value goal.

Focus on the Neighborhood Level

The neighborhood level had a prominent place in each of the value-integration pathways seeking to adopt an innovative approach to governance. In each Case, the operational level at which social innovation takes place, was prominent. This is the level at which the actual value integration must be executed to create an impact. According to the respondents, this neighborhood scale fits well within the objective of value integration, since this "life world" is, by its very nature, integrated.

> *"In everyday life, many things come together, such as work, recreation, social contacts, security, etc.". (Interview with social neighborhood manager—Case A).*

Value integration through internal-external stakeholder integration (participation) is thus more logical at this level.

In Case A, the neighborhood approach was considered to be one of the ways to deliver a project. When it was adopted in the programming meeting, residents were regarded as key stakeholders during the rest of the process. To ensure that the social values of these residents were taken into account, the social neighborhood manager took on a dual role with the manager of the physical neighborhood when executing the project. In this way, traditional physical-technical decision-making was widened to also encompass social-organizational value interests.

> *"When a physical approach can achieve such social objectives, a neighborhood approach will be needed. In this case, the 'project leader physical' will form a duo with a neighborhood manager...The neighborhood manager takes care of the social aspects; the project leader takes care of the physical project. Partial assignments may be necessary to avoid disruption in the case of unequal timelines between the social and physical aspects." (Neighborhood approach)*

In Case B, the importance of the local-scale level was reinforced by translating and customizing the municipal participation approach to the level of the sub-municipality. The participatory tools in the municipal policy were adjusted to the characteristics of the sub-municipality and even to different neighborhoods. In the specific pilot project that we investigated, local businesses and entrepreneurs were brought together in a tender pool and a residents' panel was established. Their activities related to both working on participation in the spatial elements of the project, as well as to local entrepreneurship, local employment, and education in the form of apprenticeships. In addition, the neighborhood-specific nature of the participation was emphasized "symbolically" using the identity and communication channels of a local co-operation (public-private partnership), with the aim being to move away from the public, bureaucratic system.

In Case C, the neighborhood perspective was even more prominent in the governance innovation. The main idea involved the notion that the work of small initiatives would have a wider impact. The physical/spatial adjustments were used to create a social effect—*via* preparations for replacing the sewer, space was created to "make work with work".

Separation and Adaptation of Internal and External Communication

While true value integration requires the municipal system and external institutions to come together, by both crossing of boundaries and creating compelling new relationships, our findings show that adjustments are made in interactions to ensure that there is alignment between the different logics of stakeholders. This was particularly notable in terms of communication, where there was a distinction between engaging and maintaining the involvement of internal or external stakeholders.

Intermediaries were used in both Case A and Case B to bridge the gap between the logics of the system world and those of the life-worlds of residents and local small businesses. Neighborhood brokers participated with residents (Case A: official welfare partner of the municipality; Case B: self-appointed neighborhood agent with ties to a local neighborhood coalition, i.e., a public-private collaboration). In Case A, the interaction between the internal and external stakeholders was also separated by phases. In the planning phase, for instance, the social neighborhood manager was also expected to act as the internal representative.

In cases B and C, the communication channels were also adapted for different groups and, in the latter, were even differentiated very strictly. For example, in Case B, the communication with residents was organized through cultural associations and various contacts in the neighborhood. Observing the project-team's meetings revealed that the communications advisor often altered what was written (e.g., letters to local businesses in the tender pool) to bring the wording more in line with the understanding and ways of working of these specific stakeholders. In addition, special attention was paid to the tendering process. The national procurement website was used to ensure fairness and legality, but invitations to tender were also distributed to local businesses, accompanied by a clear guide on how to subscribe and giving an option to "drop off" the tender at a specific place in the neighborhood, instead of using the website's upload facility. In Case C, the document study and observations of the core team (e.g., 18-07-2019) showed that the reports on the progress of the movement were even produced in two ways: one using a "straight story" for

internal use, and one using "stories of citizens and dreams" for external communications.

The Facilitating and Flexible Role of the Municipality

Growing interdependencies with respect to a variety of transitional issues, including the climate, have led to both internal and external changes in the roles of municipal departments and, indeed, municipalities themselves. Our findings show that the municipality was taking responsibility in all three cases by being more flexible and facilitative in order to create value-integration opportunities. This was achieved by waiting longer to start projects or slowing them down, or by extending the process to ensure that it was possible to get involved at a later stage. In doing this, more space was created for value integration.

In Case A, flexibility was mainly sought by the municipality in the form of waiting or slowing schemes down. This time was used to align technical and spatial projects and climate-adaptation goals, and to provide opportunities to tackle social issues. This was then translated into a multi-annual plan. The waiting and slowing down was also used to achieve alignment with the projects of external stakeholders, including housing associations. In its discussions to facilitate collaborations and alliances with such groups, the municipality was prepared to adjust its planning to fit in with their time-scales, since the planning processes in these organizations were even more inflexible.

> *"So, it's not the case that we have rock-solid planning and then say to the housing association, it's their turn in three years, go ahead and demolish and build a new street next year, because the housing corporations are the least flexible in this. Their investment decisions usually have to be made internally by a board of commissioners. They often have ambitions, but before they really give a 'go' or 'no go' as to whether we have the money to carry out a certain project, it's often known only too late". (Interview with the chairman of the programming time-table team)*

In Case B, the municipality also adapted its project planning, in particular to increase the opportunities available for participation and, with this, add economic and social interests to the mix. The project we observed was divided into sub-projects to make them accessible to more of the smaller businesses involved with the tender pool. Modest design assignments were also included, e.g., providing a blueprint for a bench. In addition, various phases were available for tender separately, for instance, design and execution. This meant that a business was not necessarily executing its specific designs or, at least, not on its own:

> *The participant who delivers the preliminary design does not have to be the only one in the UO phase. Others from the company pool may also apply to join this UO stage. (Frameworks and guidelines for tendering permits—District Park [name])*

Collaborations in tenders were thus encouraged by the way assignments were broken up into smaller parts.

In Case C, the manifestation of flexibility was a key feature of the enthusiasts' movement, and there were no clear boundaries in relation to the initiatives that it could, or could not, be involved with.

> *"For this movement, we did get kind of an order from the management team at City Management. They didn't give us a concrete assignment. The transformation of the city brochure, we started with that. That was it." (Interview with a core-team member of the movement)*

The municipality was "inviting" groups to contribute to its initiatives and adjusted its processes and planning accordingly.

RESULTS: BARRIERS TO VALUE INTEGRATION

The Different Time-Frames of Stakeholders

Our findings show that one of the main concerns about the alignment of projects and other governance approaches is differences in time-frames, which lead to misunderstandings between social and sustainability and spatial and technical actors, in particular. The result of this is a conflict of interests between stakeholders. Internally, most of these misunderstandings take place between the technical and social domains, while internal-external confusion occurs due to differences in institutional boundaries.

Case A revealed multiple clashes between the social neighborhood manager and actors from the technical (e.g., sewage) departments, both within the municipality's programming meetings and during the project at the neighborhood level. This relates, among other things, to how long social action takes, since it involves people and is, therefore, time-consuming. This was not understood by the technical department, which uses predetermined processes to achieve outcomes.

> "*But the internal organization is a lot of technical people with blue backgrounds; I assume you know what I mean when I say blue and yellow and stuff. And they were really, like, what is this all about, what a load of old-fashioned stuff and I don't have time for this and I have to go, I have other things to do. And that literally happened, too, that during meetings they just walked away because they had another meeting or they were called and they walked away." (Interview with social neighborhood manager)*

Furthermore, adopting the neighborhood approach to ensure that social interests are included means more time is needed for the initiating phase. For the technical domains, this stage does not necessarily require their alignment; they work based on urgency and planning. At the neighborhood level, tensions also exist with, e.g., the social-welfare partners and (mostly) other external stakeholders, like a housing association. As an example, the interviewees stated that the welfare partners "just start", and so the process will determine whether it works or if another process needs to be initiated; they do not feel constrained by any institutional boundaries, but other partners prefer to inform their residents in advance.

In Case B, the tensions between the time-frames of the technical and social domains are expressed in a similar way.

So, the actors from the latter wanted to meet the demand for an SROI *via* apprenticeships for young people locally. However, finding a way to do this within the terms of the current policy took more time than there was available before planned work on the underground began. This was also related to political time-pressures, since "*a shovel had to be put into the ground*" to enable the alderman to reveal his intentions and goals before his term on the council came to an end and the next election.

In Case C, time-frame differences between the technical and social domains were less of an issue, because the goal of becoming gas free was part of the plans of a citizens' energy collective. Nevertheless, in this case, too, technical planning for replacing the sewage system prevailed. There was, however, tension overall between the project organizers and the municipality as the parent institution, since there seemed to be no general planning taking place at all; achieving the identified goals was the responsibility of a number of small initiatives. Overall, this led to some misconceptions on the part of the municipality about the status of the enthusiasts' movement in the process.

> *"People said internally, you can never go and ask for that. Then they want 'golden pools'. Whereas, we had to challenge them to really say something. They were like: 'we have to stay somewhat realistic'." (Interview with a core-team member of the movement)*

A "Leading" Value

It became clear when we looked at the extent of the value-integration goals of the different governance innovations in the three cases that one value nevertheless prevailed. This could be related to the professional decision-making preferences.

In Case A, the goal was to combine the neighborhood approach with the programming meetings as a way to "expand" the physical domain by adding social elements to it. In this sense, the physical/spatial domain remained the reference point and the social domain was just an addition. As the decision-making about spatial projects mainly concerned budget and technical constraints, the technical domain remained to the fore.

> "*For maintenance, roads, and sewer replacement, we are the main sources, because there's also funding there." (Interview with chairman of the program time-tabling team)*

This principle was also reflected at the neighborhood level in the commissioning letters written after an integrated approach was chosen during the programming meeting. It is notable in these letters that, in line with traditional assignments, they were written with reference to a main project (sewer replacement) and possible additions (e.g., greening and maintenance by the neighborhood). The integral consideration was thus included as an after-effect and not as an outcome that was accounted for. Moreover, the municipality used the sewer replacement task, which could easily be carried out during the demolition required for the construction of new housing for the housing association, to advocate for greening. The sports council then used this to "*go with the flow*" and to "*ride the wave of water storage*" as a way to improve their sports field and also make it more attractive to non-members.

As the climate-adaptation targets had been translated into a blue-green task, they had already been taken into account in the initiation phase. This meant that the add-ons were, in fact, quite successful.

In Case B, the physical project was used as a tool for social purposes. Social goals like achieving an SROI were a particular target, with efforts made to include, e.g., apprenticeships for local youths in the spatial-development plans, trading these off against other value types. The project was described as a physical transformation of a square into a park "*where all kinds of activities, such as culture, can take place to strengthen social cohesion, ownership, and employment*". The physical transition could thus act as a lever for social goals. Furthermore, the MVI policy (socially responsible purchasing) was being expanded to also encompass the social domain. The climate-adaptation measures were only added to the plans when a subsidy later provided additional funding.

In Case C, the task on paper (as identified in the document study) was formulated as a transformation into a natural gas-free neighborhood, combined with a broader task of increasing sustainability by linking social projects. Yet the explanations given in the interviews mainly concerned social livability, ownership, empowerment, and making the responsive government more central. This misalignment between the assignment and the understanding of the assignment led to a conflict of interests. The integration was also very fragmented, with multiple initiatives added to the tasks of the enthusiasts' movement during the process.

> *"It's about social livability. Physical interventions can contribute to this." (Interview with neighborhood manager)*

Non-committal Inclusion of Social and Sustainable Objectives

In a continuation of the finding discussed above, we also identified that the social and sustainability values formulated in the integration and implementation objectives were rather non-committal in nature. This can be explained by the dominance of traditional and project-based management approaches in the construction industry and as we saw in the cases. In by the (organizational) positions of the more traditional technical and spatial actors representing and relatively new social and sustainability actors and their values and the influence they have on budgeting, mandates, and communication.

In Case A, an observation of a programming meeting revealed that the representatives of the social domain were still weakly embedded in the group. Although this is understandable, because this project was still in its early stages, it nonetheless demonstrates the existence of a clear barrier that will have to be overcome in the future. Several issues were raised by the social actors in attendance, but these were quickly dismissed with a suggestion that they would be discussed at a later stage. The urgency of including social elements seemed to be lacking. This may be explained by the fact that informal project discussions appear to take place before the programming meetings set up to talk about this same project. Such consultation

takes place between actors who are used to working with one another. The urgency in relation to social matters is also lacking when commissioning letters are written. We identified phrases in these documents like: *"Takes into account blue-green ambitions"* and *"social, community initiatives can be encouraged*". Accordingly, although these letters do translate objectives into concrete projects, this is not the case in relation to social and sustainability values.

> *"Well, it's more actually fairly pragmatic; in the assignment letter it says, for example, of in street [name] and then there's a map with that; the sewerage has to be replaced, the utilities have to replace gas pipes, traffic wants to install speed bumps, and then there have to be green-blue measures, period. So, it's all pretty down to earth really." (Interview with chairman of the program time-tabling team)*

In Case B, the non-committal nature referred to above is not so much reflected in the formulation of the value targets in the procurement documents—SROI is a clear condition in the tenders—but it does nevertheless threaten local participation in various ways. The jointly drafted code of conduct for collaboration between the tendering pool and the resident panel is non-committal on both sides; it has no official status, and is more a statement of intent. In addition, there is an escape route for the municipality in the tender procedure: if parties do not provide the desired material, the municipality can put the project out to tender again in the traditional way.

In the interviews about Case C, a view was expressed that the eight objectives that had been set were "unachievable" and there was no clear definition of when they had been achieved as a matter of fact. Indeed, it is stated that, by taking joint responsibility, the neighborhood "*will be made physically and socially ready for a sustainable future*". Yet this rather vague reference to a shared responsibility meant that no one really felt accountable for setting and achieving specific goals.

> *"I respect the core team; they keep it going well. It's difficult because it is non-committal. It's okay for management to say 'we're going in this direction, come along and I expect results in six months'. It's necessary for someone to monitor the process, that agreements are kept. Now, [those in] the shell around [name project] think: 'I don't need to do anything with it, I won't be addressed anyway'." (Interview with employee in management and implementation)*

Predominant Project Language

Another observation and concern raised in the context of value integration was the predominance of project-type language—structures and processes, which can also be explained by the traditional construction sector. Although the goal of each of the governance innovations was to (also) adopt a district/neighborhood-oriented approach, the project-based language continued to dominate, leading to various value conflicts.

In Case A, traditional conditions such as the budget, capacity and policies were used because they provide measurable criteria and objectives. Social goals, however, are difficult to translate into measurable elements and are therefore just omitted. In the programming meeting, a specific mapping tool was used where different layers of projects and ambitions were portrayed on a map. Zooming in on the environment relating to a specific project then provided the input for discussions about integration. However, using a map was considered to be the language of the technical and spatial departments, and not that of the social domain or, to a lesser extent, that of climate adaptation. The social and climate adaptation teams were therefore forced to translate their information into a format that did not reflect the language they used. They had goals they wanted to achieve, but these often did not yet have a budget and remained quite abstract, making them difficult to take into account.

> *"You can't say to the project coordinator, hey you have a project there in the neighborhood, well then solve a social problem at the same time. So, a team will have to be set up, and the social district manager, who I think will play a leading role in this, will say that we think we can solve problems here by creating a picnic area or by laying out a bicycle cross-track. It has to translate into some kind of physical measure." (Interview with chairman of the program time-tabling team)*

In Case B, the innovative procurement already implied some form of governance innovation. However, here, too, the goal was to examine assignments from a broader perspective. The tender board was designed to discuss possible issues, especially regarding SROI policy and sustainability. Nevertheless, what we observed in practice was a strong focus on risk tables, which is a strict, traditional language used to make decisions about projects and their implementation. Additionally, although the tenders were more innovative, the approach to the tasks and their execution was still quite old-fashioned.

In Case C, the project's orientation was less prominent in the enthusiasts' movement, which followed a much more process-type of approach. Nevertheless, it was present in the structure sought by the line organization and partly provided by the core team. There were eight objectives, which had been translated into goals; these goals were then themselves translated into resources and cash flows and assigned to the management team (MT) members responsible:

> *"We made a travel plan, translated each ambition into goals and translated them into resources and money streams for which MT members are responsible, and below that which city and dot plots contribute to the goals." (Interview with movement's core-team member)*

The project language was thus needed to secure enough support from the internal organization. The movement's core team also had to pay specific attention to ensuring it was "visible" to the line organization. This was achieved by, e.g., identifying "SMART" goals and celebrating specific process successes.

DISCUSSION

The drivers of value integration distilled from our case studies are not a surprise, since they reflect the findings of previous research on collaborative governance, policy integration, and

administrative coordination. The importance of institutional support and a flexible administration, for instance, has already been highlighted in studies like that by Ansell and Gash (2008) on their, now famous, framework for collaborative governance. The same holds true for the importance of trust-building—our findings also have clear similarities to the insights in the literature on policy integration, which emphasizes the importance of facilitating institutional structures and appropriate institutional incentives (Tosun and Lang, 2017). Moreover, many authors underline the importance of the integrative capacity of the institutional context within which policy integration is sought (Candel and Biesbroek, 2016; Domorenok et al., 2021). As well as confirming the importance of institutional conditions for value integration, our study also highlights the essential nature of interactional elements, i.e., interactions that start in the early phases and are based on mutual trust and understanding. Whether this involves other public agencies, private partners or societal stakeholders/citizens, every attempt to achieve value integration needs a timely start to get to know each other and build trust and a shared appreciation of what is required, all of which are crucial to realizing value integration.

The barriers distilled from our case studies reflect the findings of previous research on implementation problems in highly institutionalized environments and the use of boundary spanning. Our findings resonate with earlier work that indicate that institutions such as structures and processes lead to implementation challenges that emerge particularly when societal issues are confronted with traditional forms of subsystem policymaking within hierarchical governance systems, in which bureaucratic autonomy means that officials can independently decide for themselves about critical issues (Wellstead and Biesbroek, 2022). The use of intermediaries is also recognized in boundary spanning literature (Nederhand et al., 2019). Our study also highlights implementation barriers specific to the construction industry. The dominance of project language and, as a consequence, the noncommittal inclusion of social and sustainability goals can be explained by the literature that discusses that traditional construction assessment criteria, such as the DQI, which assesses functionality, construction quality, and the impact of the construction itself, or the traditional project assessment values of time, money, and quality, hinder innovative values (Kuitert, 2021). Our findings thus show that public organizations are comfortable with the deliberate and purposeful value management common in bureaucratic settings, encompassing matters like policies (e.g., land use) and regulations (e.g., CO2 emission standards). These are static approaches, and assume an adequate knowledge-base and the measurability of the values involved in most technical (e.g., sewage) and spatial (e.g., housing) work (Williams et al., 2020). This makes it difficult for them to engage in the more explorative and goal-seeking processes that are crucial for achieving value integration. Moreover, their focus is on the values that their own agency or sector views as being key, making it difficult to treat everyone else's with the same care. Despite attempts to involve social and sustainability actors in new ways, the cases show how such values have to be adapted to the systems and methods of the technical and spatial disciplines. In the process of governance innovation for value integration, parties encounter boundaries based on formal responsibilities and accountability structures specific to the construction industry. Despite their often-commendable intentions, governments are still struggling to distance themselves from old rational-technical approaches to decision-making and instead adopt those that do justice to the dynamic interests of the entire network and contribute to the broader system (Keast et al., 2006; Brown and Head, 2019; Joosse and Teisman, 2021). One reason for this is that the new approaches are often at odds with established bureaucratic norms and practices. Consequently, rather than a balance or the integration of values, there are trade-offs between them (Kuitert, 2021). This also has implications for the spectrum of value integration, which remains quite narrow.

Our study adds an important "place-based focus" to these institutional and interactional elements concerning climate-adaptation measures and value integration. This is in line with other literature that emphasizes the benefits of a place-based approach over one that is people- or sector-related (Bentley and Pugalis, 2014; Khan et al., 2018). Value controversies and opportunities for integration become manifest when plans and visions "hit the ground". Focusing on the specific (e.g., social, spatial, environmental) characteristics of a neighborhood makes it clear which values are (potentially) at stake and which opportunities for integration are available. Here, we can see that it is easy for bureaucratic (top–down) approaches to value integration to remain rather conceptual and discursive; actual implementation happens somewhere else and thus the proof of the pudding misses.

CONCLUSION

Our comparative case study comprises three types of governance innovation, all adopted in an attempt to achieve value integration in the development of BGI: (1) a top-down case of programmatic steering to translate value integration into a neighborhood approach; (2) a market-oriented innovative procurement approach to local public-private partnership projects; and (3) a case of invitational governance for a future-proof neighborhood striving for a sense of citizen ownership. This has revealed that all three have been helped by: an enabling, institutional context, which is flexible and facilitative; productive interactions based on reciprocity and mutual trust; and a place-based approach. All three have also been hindered by the same sort of barriers, with the dominance of "project-thinking" and a fervent preoccupation with technical values standing out. Here, we can see that the path-dependency of the infrastructural domain, its technical culture, hampers the opportunity for both an equal dialogue with other domains and a goal-seeking process moving toward achieving the better integration of concepts and solutions.

Our findings lead us to conclude that value integration requires innovation in all three of the ways examined. It is not enough for public bureaucracies to attempt to achieve value integration using top-down, bureaucratic innovation, since the main weakness of this approach concerns the link with

implementation, i.e., the difficult step of moving away from abstract plans and ideas toward the public spaces in which they have to be realized. In that sense, bureaucratic innovation needs social innovation to link policy ideas and concepts to the energy and creativity of citizens and other societal actors. The same also holds true for the reverse relationship. Social innovation makes an indispensable call for change and is a source of inspiration and vigor, but it cannot become successful in any sustainable way when it is not complemented with bureaucratic innovation. To be successful in regular or socially innovative public-private partnerships, city governments should organize themselves internally so that, at the very least, they speak with one voice. Nevertheless, as is the case with the more bureaucratic approach, innovative procurement also has to bridge the gap with the actors in the specific neighborhood in which the BGI is planned. It is only by actively involving these actors that the entire range of options for value integration can be explored. Moreover, the energy of these actors is often essential to ensuring the success of such associations, not only today, but also tomorrow.

This paper carefully uncovers a triple-helix perspective on value integration in which three different governance logics (hierarchy, network, and market) complement and presuppose the success of each other. To realize and sustain value integration when concrete measures materialize on the ground requires sectoral policies to come together and the alignment of the different ambitions and agendas of those within the city administration. It is also just as important that actors who give meaning to and enact the public space in which BGI is planned are involved in its design and maintenance. These stakeholders are able to attach their own values to these spaces and know what can make a difference given the spatial, social, and cultural characteristics of that particular space. Their practical knowledge and organizing capacity are important building-blocks in creating BGI and sustaining it in the longer term. Finally, involving private actors in more innovative ways also brings with it their creativity and knowledge. Novel forms of partnership and (long-term) involvement can thus trigger the innovative potential.

We therefore conclude with a plea: approaching the issue of value integration in BGI as a quest for hybrid governance not only requires all three of the types of innovation identified, but it must also be ensured that they are complementary. Further research is required to clarify which configurations really help and which conditions are essential if they are to succeed.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because they contain information that could compromise the privacy of study participants. Participants of this study did not agree for their data to be shared publicly. Requests to access the datasets should be directed to LK and require permission from the participants involved.

AUTHOR CONTRIBUTIONS

LK and AB worked together to conceptualize. LK led the data analysis. AB provided funding acquisition for case A and C. Both authors contributed to the article and approved the submitted version.

FUNDING

This work was supported by BEGIN project—Interreg VB North Sea Region Programme, the Dutch Construction Client Forum and the City of Rotterdam.

ACKNOWLEDGMENTS

The authors would like to acknowledge Dr. Hans Joosse for sharing the data for case study C. Our sincere gratitude goes to the municipalities for opening up their organizations.

REFERENCES

Anguelovsk, I., Connolly, J. J., Garcia-Lamarca, M., Cole, H., and Pearsall, H. (2019). New scholarly pathways on green gentrification: What does the urban 'green turn' mean and where is it going? *Progress Hum. Geogr.* 43, 1064–1086. doi: 10.1177/0309132518803799

Ansell, C., and Gash, A. (2008). Collaborative governance in theory and practice. *J. Pract. Admin. Tes. Theor.* 18, 543–571. doi: 10.1093/jopart/mum032

Ansell, C., Sørensen, E., and Torfing, J. (2017). Improving policy implementation through collaborative policymaking. *Policy Polit.* 45, 467–486. doi: 10.1332/030557317X14972799760260

Bentley, G., and Pugalis, L. (2014). Shifting paradigms: people-centred models, active regional development, space-blind policies and place-based approaches. *Local Econ.* 29, 283–294. doi: 10.1177/0269094214541355

Brown, P. R., and Head, B. W. (2019). Navigating tensions in co-production: a missing link in leadership for public value. *Public Admin.* 97, 250–263. doi: 10.1111/padm.12394

Bryson, J. M., Crosby, B. C., and Bloomberg, L. (2014). Public value governance: moving beyond traditional public administration and the new public management. *Public Adm. Rev.* 74, 445–456. doi: 10.1111/puar.12238

Bygballe, L. E., and Swärd, A. (2019). Collaborative project delivery models and the role of routines in institutionalizing partnering. *Project Manage. J.* 50, 161–176. doi: 10.1177/8756972818820213

Caldwell, N. D., Roehrich, J. K., and George, G. (2017). Social value creation and relational coordination in public-private collaborations. *J. Manage. Stud.* 54, 906–928. doi: 10.1111/joms.12268

Candel, J. J., and Biesbroek, R. (2016). Toward a processual understanding of policy integration. *Policy Sci.* 9, 211–231. doi: 10.1007/s11077-016-9248-y

Carmin, J. A., Anguelovski, I., and Roberts, D. (2012). Urban climate adaptation in the global south: planning in an emerging policy domain. *J. Plan. Educ. Res.* 32, 18–32. doi: 10.1177/0739456X11430951

Cejudo, G. M., and Michel, C. L. (2017). Addressing fragmented government action: coordination, coherence, and integration. *Policy Sci.* 50, 745–767. doi: 10.1007/s11077-017-9281-5

Choi, C., Berry, p., and Smith, A. (2021). The climate benefits, co-benefits, and trade-offs of green infrastructure: a systematic literature review. *J. Environ. Manage.* 291, 112583. doi: 10.1016/j.jenvman.2021.112583

Christensen, T., and Lægreid, p. (2007). The whole-of-government approach to public sector reform. *Public Adm. Rev.* 67, 1059–1066. doi: 10.1111/j.1540-6210.2007.00797.x

De Graaf, G., and Paanakker, H. (2015). Good governance: performance values and procedural values in conflict. *Am. Rev. Public Adm.* 45, 635–652. doi: 10.1177/0275074014529361

Deletic, A., Qu, J., Bach, p. M., Liu, G., Wang, A., Zhang, K., et al. (2020). The multi-faceted nature of Blue-Green Systems coming to light. *Blue-Green Syst.* 2, 186–187. doi: 10.2166/bgs.2020.002

Domorenok, E., Graziano, P., and Polverari, L. (2021). Introduction: policy integration and institutional capacity: theoretical, conceptual and empirical challenges. *Policy Soc*. 40, 1–18. doi: 10.1080/14494035.2021.1902058

Edelenbos, J., Van Buuren, A., Roth, D., and Winnubst, M. (2017a). Stakeholder initiatives in flood risk management: exploring the role and impact of bottom-up initiatives in three 'Room for the River'projects in the Netherlands. *J. Environ. Plan. Manage.* 60, 47–66. doi: 10.1080/09640568.2016.1140025

Edelenbos, J., van Meerkerk, I., and Koppenjan, J. (2017b). The challenge of innovating politics in community self-organization: the case of Broekpolder. *Public Manage. Rev.* 19, 55–73. doi: 10.1080/14719037.2016.1200663

Eriksson, p. E. (2013). Exploration and exploitation in project-based organizations: development and diffusion of knowledge at different organizational levels in construction companies. *Int. J. Project Manage.* 31, 333–341. doi: 10.1016/j.ijproman.2012.07.005

Farrelly, M., and Brown, R. (2011). Rethinking urban water management: experimentation as a way forward? *Global Environ. Change* 21, 721–732. doi: 10.1016/j.gloenvcha.2011.01.007

Flick, U. (2013). *The Sage Handbook of Qualitative Data Analysis*. Newcastle upon Tyne, UK: Sage.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qual. Inquiry* 12, 219–245. doi: 10.1177/1077800405284363

Ford, R. M., Rawluk, A., and Williams, K. J. (2019). Managing values in disaster planning: current strategies, challenges and opportunities for incorporating values of the public. *Land Use Policy* 81, 131–142. doi: 10.1016/j.landusepol.2018.10.029

Fossestøl, K., Breit, E., Andreassen, T. A., and Klemsdal, L. (2015). Managing institutional complexity in public sector reform: hybridization in front-line service organizations. *Public Adm.* 93, 290–306. doi: 10.1111/padm.12144

Godenhjelm, S., Lundin, R. A., and Sjöblom, S. (2015). *Projectification in the public sector–the case of the European Union. Int. J. Manag. Projects Bus. 8, 324–348. doi: 10.1108/IJMPB-05-2014-0049*

Grandia, J. (2015). *Implementing sustainable public procurement: an organisational change perspective* (Doctoral dissertation), Erasmus University Rotterdam, Rotterdam, Netherlands.

Hansen, R., Olafsson, A. S., Van Der Jagt, A. P., Rall, E., and Pauleit, S. (2019). Planning multifunctional green infrastructure for compact cities: what is the state of practice? *Ecol. Indic.* 96, 99–110. doi: 10.1016/j.ecolind.2017.09.042

Head, B. W., and Alford, J. (2015). Wicked problems: implications for public policy and management. *Adm. Soc.* 47, 711–739. doi: 10.1177/0095399713481601

Hertin, J., and Berkhout, F. (2003). Analysing institutional strategies for environmental policy integration: the case of EU enterprise policy. *J. Environ. Policy Plan.* 5, 39–56. doi: 10.1080/15239080305603

Hobday, M. (2000). The project-based organisation: an ideal form for managing complex products and systems? *Res. Policy* 29, 871–893. doi: 10.1016/S0048-7333(00)00110-4

Hodgson, D., Fred, M., Bailey, S., and Hall, P. (2019). *The Projectification of the Public Sector*. Milton Park, Zimbabwe: Routledge.

Johnston, M. P. (2017). Secondary data analysis: a method of which the time has come. *Qual. Quan. Methods Libr.* 3, 619–626.

Joosse, H., and Teisman, G. (2021). Employing complexity: complexification management for locked issues. *Public Manage. Rev.* 23, 843–864. doi: 10.1080/14719037.2019.1708435

Jørgensen, T. H., Remmen, A., and Mellado, M. D. (2006). Integrated management systems–three different levels of integration. *J. Clean. Prod.* 14, 713–722. doi: 10.1016/j.jclepro.2005.04.005

Karré, p. M. (2018). Navigating between opportunities and risks: the effects of hybridity for social enterprises engaged in social innovation. *J. Entrep. Organ. Divers.* 7, 37–60. doi: 10.5947/jeod.2018.003

Keast, R., Brown, K., and Mandell, M. (2007). Getting the right mix: unpacking integration meanings and strategies. *Int. Public Manage. J.* 10, 9–33. doi: 10.1080/10967490601185716

Keast, R., and Hampson, K. (2007). Building constructive innovation networks: role of relationship management. *J. Construct. Eng. Manage.* 133, 364–373. doi: 10.1061/(ASCE)0733-9364(2007)133:5(364)

Keast, R., Mandell, M., and Brown, K. A. (2006). Mixing state, market and network governance modes: the role of government in "crowded" policy domains. *Int. J. Organ. Theor. Behav*. 9, 27–50. doi: 10.1108/IJOTB-09-01-2006-B002

Khan, A., Charles, A., and Armitage, D. (2018). Place-based or sector-based adaptation? A case study of municipal and fishery policy integration. *Climate Policy* 18, 14–23. doi: 10.1080/14693062.2016.1228520

Kiparsky, M., Sedlak, D. L., Thompson, B. H., and Truffer, B. (2013). The innovation deficit in urban water: the need for an integrated perspective on institutions, organizations, and technology. *Environ. Eng. Sci.* 30, 395–408. doi: 10.1089/ees.2012.0427

Kuitert, L. (2021). The balancing act: How public construction clients safeguard public values in a changing construction industry. *A+ BE| Arch. Built Environ.* 3:1–234. doi: 10.7480/abe.2021.06

Laegreid, p. (2016). Public administration theories: instrumental and value rationality book review. *J. Public Adm. Res. Theory* 26, 588–590. doi: 10.1093/jopart/muv050

Mair, J., Mayer, J., and Lutz, E. (2015). Navigating institutional plurality: organizational governance in hybrid organizations. *Organ. Stud.* 36, 713–739. doi: 10.1177/0170840615580007

Martinsuo, M., Klakegg, O. J., and van Marrewijk, A. (2019). Delivering value in projects and project-based business. *Int. J. Project Manage.* 37, 631–635. doi: 10.1016/j.ijproman.2019.01.011

Mulgan, G., Tucker, S., Ali, R., and Sanders, B. (2007). *Social innovation: what it is, why it matters, how it can be accelerated*.

Nederhand, J., Van Der Steen, M., and Van Twist, M. (2019). Boundary-spanning strategies for aligning institutional logics: a typology. *Local Gov. Stud.* 45, 219–240. doi: 10.1080/03003930.2018.1546172

Nieuwenhuis, E., Cuppen, E., and Langeveld, J. (2022). The role of integration for future urban water systems: identifying dutch urban water practitioners' perspectives using Q methodology. *Cities* 126, 103659. doi: 10.1016/j.cities.2022.103659

Oseland, S. E. (2019). Breaking silos: can cities break down institutional barriers in climate planning? *J. Environ. Policy Plan.* 21, 345–357. doi: 10.1080/1523908X.2019.1623657

Pel, B., Haxeltine, A., Avelino, F., Dumitru, A., Kemp, R., Bauler, T., et al. (2020). Towards a theory of transformative social innovation: a relational framework and 12 propositions. *Res. Policy* 49, 104080. doi: 10.1016/j.respol.2020.104080

Pozoukidou, G. (2020). Designing a green infrastructure network for metropolitan areas: a spatial planning approach. *Euro-Mediterr. J. Environ. Integr.* 5, 1–15. doi: 10.1007/s41207-020-00178-8

Rauken, T., Mydske, P. K., and Winsvold, M. (2015). Mainstreaming climate change adaptation at the local level. *Local Environ.* 20, 408–423. doi: 10.1080/13549839.2014.880412

Raymond, C. M., Frantzeskaki, N., Kabisch, N., Berry, p., Breil, M., Nita, M. R., et al. (2017). A framework for assessing and implementing the co-benefits of nature-based solutions in urban areas. *Environ. Sci. Policy* 77, 15–24. doi: 10.1016/j.envsci.2017.07.008

Sharifi, A., Pathak, M., Joshi, C., and He, B. J. (2021). A systematic review of the health co-benefits of urban climate change adaptation. *Sustain. Cities Soc.* 74, 103190. doi: 10.1016/j.scs.2021.103190

Smets, M., Jarzabkowski, p., Burke, G. T., and Spee, p. (2015). Reinsurance trading in Lloyd's of London: Balancing conflicting-yet-complementary logics in practice. *Acad. Manage. J.* 58, 932–970. doi: 10.5465/amj.2012.0638

Stafford, A., and Stapleton, p. (2017). Examining the use of corporate governance mechanisms in public–private partnerships: why do they not deliver public accountability? *Aust. J. Public Adm.* 76, 378–391. doi: 10.1111/1467-8500.12237

Steenhuisen, B., Dicke, W., and De Bruijn, H. (2009). "Soft" public values in jeopardy: Reflecting on the institutionally fragmented situation in utility sectors. *Int. J. Public Adm.* 32, 491–507. doi: 10.1080/01900690902861753

Stoker, G. (2006). Public value management: a new narrative for networked governance? *Am. Rev. Public Adm.* 36, 41–57. doi: 10.1177/0275074005282583

Thacher, D., and Rein, M. (2004). Managing value conflict in public policy. *Governance* 17, 457–486. doi: 10.1111/j.0952-1895.2004.00254.x

Torfing, J., and Triantafillou, p. (2013). What's in a name? Grasping new public governance as a political-administrative system. *Int. Rev. Public Adm.* 18, 9–25. doi: 10.1080/12294659.2013.10805250

Tosun, J., and Lang, A. (2017). Policy integration: mapping different concepts. *Policy Stud.* 38, 553–570. doi: 10.1080/01442872.2017.1339239

Trein, p., and Maggetti, M. (2020). Patterns of policy integration and administrative coordination reforms: a comparative empirical analysis. *Public Adm. Rev.* 80, 198–208. doi: 10.1111/puar.13117

Trein, p., Maggetti, M., and Meyer, I. (2021). Necessary conditions for policy integration and administrative coordination reforms: an exploratory analysis. *J. Eur. Public Policy* 28, 1410–1431. doi: 10.1080/13501763.2020.1788121

Vaara, E., and Whittington, R. (2012). Strategy-as-practice: taking social practices seriously. *Acad. Manage. Annals* 6, 285–336. doi: 10.5465/19416520.2012.672039

Van Buuren, A., Vreugdenhil, H., Verkerk, J. V. P., and Ellen, G. J. (2016). "Beyond the pilot paradox How the success conditions of pilots also hinder their up-scaling in climate governance," in *Workshop: Beyond experiments: Understanding how climate governance innovations become embedded 25th—27th April*, Workshop Erasmus University Rotterdam.

Van Zyl, B., Lategan, L. G., Cilliers, E. J., and Cilliers, S. S. (2021). An exploratory case-study approach to understand multifunctionality in urban green infrastructure planning in a South African context. *Front. Sustain. Cities*. 3:725539. doi: 10.3389/frsc.2021.725539

Vigar, G. (2009). Towards an integrated spatial planning? *Eur. Plann. Stud.* 17, 1571–1590. doi: 10.1080/09654310903226499

Visser, W. (2017). Integrated value: what it is, what it's not and why it's important. *Huffington Post* 9, 2017.

Wamsler, C., Wickenberg, B., Hanson, H., Olsson, J. A., Stålhammar, S., Björn, H., et al. (2020). Environmental and climate policy integration: targeted strategies for overcoming barriers to nature-based solutions and climate change adaptation. *J. Clean. Prod.* 247, 119154. doi: 10.1016/j.jclepro.2019.119154

Wellstead, A. M., and Biesbroek, R. (2022). Finding the sweet spot in climate policy: balancing stakeholder engagement with bureaucratic autonomy. *Current Opin. Environ. Sustain.* 54, 101155. doi: 10.1016/j.cosust.2022.101155

Willems, J. J., Molenveld, A., Voorberg, W., and Brinkman, G. (2020). Diverging ambitions and instruments for citizen participation across different stages in green infrastructure projects. *Urban Plan.* 5, 22–32. doi: 10.17645/up.v5i1.2613

Williams, K. J., Ford, R. M., and Rawluk, A. (2020). The role of collaborative research in learning to incorporate values of the public in social ecological system governance: case study of bushfire risk planning. *Ecol Soc.* 25 (4). doi: 10.5751/ES-11987-250431

Wittmayer, J. M., de Geus, T., Pel, B., Avelino, F., Hielscher, S., Hoppe, T., et al. (2020). Beyond instrumentalism: broadening the understanding of social innovation in socio-technical energy systems. *Energy Res. Soc. Sci.* 70, 101689. doi: 10.1016/j.erss.2020.101689

Yin, R. K. (1994). *Case Study Research: Design and Methods*. Thousand Oaks: Sage publications.

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

APPENDIX

TABLE A1 | Overview of data.

	Case A
Interviews	Interviews with 3 members of the programming table, 3 social neighborhood managers, a cluster manager neighborhood, an advisor climate adaption and external actors hired to develop the neighborhood approach. And specifically, about the pilot project: the coordinator of the blue green task, the project leader, the social neighborhood manager, the welfare partner, a neighborhood manager of a housing association and a member of the sports council.
Observations	Programming meeting; own reporting and minutes.
Documents	Blue Green Strategy, Memo Implementation Program Table Public Space (POR), Neighborhood approach Dordrecht, Neighborhood Approach 2020 (TNO), presentation incorporation Neighborhood approach in POR, presentation City Deal. Project level: Assignment Letters, commissioning letter and starting memos, IPM form, Marketing and communication approach to green passage, application Living Lab, plan of approach living lab, report results living lab, flyers and media coverage.
	Case B
Interviews	The directors of the management and development departments, the general integrity coordinator, those that are responsible for policy and assessment of procurement, program managers or internal advisors for either innovation or sustainability, the person responsible for socially responsible procurement, the person responsible for finance and/or control, and for managing functions around the use of (new) forms of contracts. Project level: Alderman, Urban district managers, general project manager. Procurement consultant, representative of the urban management department, Landscape architect, communication consultant, project manager tender pool, project manager resident panel, residents' organizations, cultural association, two housing associations, two neighborhood organizations and a community worker and youth worker.
Observations	Tender pool gatherings (3x) and residents' panel meetings (3x) over a period of 19 months 4 months of observations of the project, including 4 tender pool board meetings, project evaluation meeting, start meeting of innovation workgroup and multiple monthly project team meetings (over a period of 19 months).
Documents	Websites: municipal website, municipal intranet, TenderNet (tenders are published on this website), commissioning letters (decision-making), various municipal programs: neighborhood program, citizen participation action plan, innovative participation approach, municipal procurement regulations. Various documents related to the project, including the process document, media coverage, folders, project website, neighborhood magazine.
	Case C
Interviews	Interviews with multiple members of the movement and core team: neighborhood managers, head of Urban Management, employment and Income Project Leader, city laborer/ advisor civil engineering works (urban management), area networker, employees (2) Management and Implementation, kwartiermaker energy transition, employee of foundation Tussentuin, travel director of communication and organization / communication advisor City management, program manager, district manager, transition manager/head of area development, project leader digital management,
Observations	Meetings of core team (20x).
Documents	Booklet Transforming the City, report exploratory session, multiple movement-reports, factsheets, booklet hackatlon, Energy-map, Opportunity-map, travel guide, movement plan, participation stories.