**Master Thesis** 

Steering Transitions: The Role of Policy Entrepreneurs in the Founding of Decentralized Water Systems in Amsterdam



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# Table of Contents

1. Introduction	6
1.1 Introduction	6
1.2 Research Justification	8
1.3 Roadmap	9
2. Theoretical Framework	
2.1 Introduction	
2.2 Policy Entrepreneurs and Entrepreneurial Policy Change Strategies	
2.2.1 Policy Entrepreneurs	
2.2.2 Entrepreneurial Policy Change Strategies	11
2.2.3 Attention- and Support Seeking Strategies	
2.2.4. Linking Strategies	
2.2.5. Relational Management Strategies	
2.2.6. Arena Strategies	13
2.2.7 Strategy Selection Process	
2.3 Policy Change	
2.3.1 Room for Policy Change	
2.3.2 Policy Streams	
2.3.3 The Advocacy Coalition Framework	
2.3.4 Working Towards a Definition of Policy Change	
2.3.5 Defining Policy Change	20
2.4 Transition Theory: Socio-Technical Transitions	21
2.5 Centralized, Decentralized and Hybrid Water Infrastructures	22
2.5.1 Future of Centralized Water Systems	22
2.5.2 Decentralized Water Systems	23
2.5.3 Hybrid Water Systems	23
3. Contextual Background	25
3.1 The Amsterdam Water Context	25
3.2 Projects in Buiksloterham	26
3.3 Applied Features of Decentralized Water Systems	26
4. Problem Statement and Operationalization	28
4.1 Problem Statement	
4.2 Focus on Particular Strategies	
4.3 Conceptual Model	29
4.4 Research Questions	
4.4 Operationalization	

5. Research Design and Methodology					
5.1 Nature	5.1 Nature of Research				
5.2 Resear	ch Strategy				
5.3 Resear	ch Design				
5.4 Resear	ch Methods Phase 1 and 2	34			
5.5 Units c	f Analysis	35			
5.6 Sampli	ng	36			
5.7 Analys	s of Results				
5.8 Limitat	ions				
5.9 Ethics.					
6. Personal Ir	nclination and Personal Objectives				
6.1 Organi	zational Roles & Objectives	40			
6.2 Respor	ndent Characteristics & Personal Objectives	42			
6.3 Person	al Inclination & Strategies	46			
6.4 Discuss	sion Personal Inclination				
7. Contextua	Factors & Strategy Mix Selection Process	50			
7.1 Demor	stration Strategy	50			
7.1.1	The Network Environment	50			
7.1.2	Specific Project/Policy Proposal	52			
7.1.3	Policy Entrepreneur's Organization	55			
7.1.4	Discussion Demonstration Strategy: Contextual Factors	57			
7.2 Coalitio	on Building	61			
7.2.1 Th	e Network Environment	61			
7.2.2 Sp	ecific Project/Policy Proposal	63			
7.2.3 Po	licy Entrepreneur's Organization	65			
7.2.4 Di	scussion Coalition Building: Contextual Factors	66			
8. Contributi	on to Transition	70			
8.1 Relatio	8.1 Relationship Between Projects and Policy70				
8.2 Perception of Contribution to Transition72					
9. Conclusions and Recommendations76					
Literature					
Appendix A:	Definition Sheet and Original Interview Guide	86			
Appendix B: Definitional Criteria Public Sector Organizations96					

# List of Figures

Fig. 1	Strategy mix selection process: Brouwer (2015b)	18
Fig. 2	The division of responsibilities for the water cycle	25
Fig. 3	Floating resource station	27
Fig. 4	Conceptual framework	31
Fig. 5	Initial ideas regarding the strategy selection process	35
Fig. 6	Boundaries of public-sector organizations	36
Fig. 7	Visual representation of personal inclination	49
Fig. 8	Timeline of project- and policy related events	75
Fig. 9	Expanded strategy mix selection process	80

# List of Tables

Table 1 Entrepreneurial policy change strategies	15
Table 2 List of respondents, characteristics and personal objectives	43
Table 3 Overview of contextual factors of influence on the demonstration strategy	60
Table 4 Overview of contextual factors of influence on size and composition of the coalition	69

## Abstract

Various studies have acknowledged that policy entrepreneurs play a significant role in policy change processes by applying a wide range of entrepreneurial strategies. Nevertheless, a comprehensive contextual framework on the factors that determine the application of entrepreneurial strategies was absent. This study aimed to fill this gap by investigating the involvement of policy entrepreneurs in the establishment process of decentralized water systems in Buiksloterham, The Netherlands. Using a transition perspective, it was explored how policy entrepreneurs contributed to the transition to a hybrid water system, by investigating the relationship between pilot-projects and policy changes. Semi-structured interviews were held with several policy entrepreneurs from the public-sector organizations involved. The results indicate that many contextual factors had been considered when entrepreneurial policy change strategies were applied. These contextual factors have been grouped under the following categories: The network environment, the specific project or policy proposal, the policy entrepreneur's organization, personal inclination and timing. Personal factors proved to be most important, as they served as intermediary for the interpretation of other contextual factors. The actions from the policy entrepreneurs resulted in several (policy) changes, which suggests that policy entrepreneurs contributed to a potential transition.

# 1. Introduction

### 1.1 Introduction

Under the impact of a wide range of economic, environmental, social and geo-political challenges, momentum is there for urban areas to change current systems of production, consumption and waste treatment, for the creation of reliable and environmentally sound systems capable of dealing with future challenges (Loorbach et al., 2016). To cope with the dilemma of rising demands for scarce and costly resources and damaging environmental impacts of acquiring these resources, ideas about a circular economy have risen from the discipline of industrial ecology, which is believed to be beneficial for society and the environment (Geng & Doberstein, 2008). However, the transition to a circular economy will not occur automatically, as prevailing policy structures and legislation support incumbent socio-technical regimes (Schot et al., 1994). The so-called 'policy entrepreneurs' are believed to play an important role in this respect, as they have the ability to alter existing policy structures (Meijerink & Huitema, 2009). These individual actors can be characterized as 'risk-taking' and (policy) change seeking agents from the public sector, who are involved throughout the entire process of policy change (Brouwer, 2015b).

The main focus of this research lies on the role of policy entrepreneurs in transitions. It is investigated whether policy entrepreneurs 'get behind the wheel', to steer society into a more sustainable direction. Specific interest lies in the entrepreneurial policy change strategies they employ. The strategy selection process is a crucial step to establish policy change, as the context informing the choice of strategic actions determines the policy outcomes in a given context (Brouwer, 2015b). However, inferences about the strategy selection of entrepreneurial policy change strategies are limited to being mostly context-dependent (Mintrom, 2000; Taylor et al., 2011). A recent contribution from Brouwer (2015b), resulted in the development of a contextual framework. The policy entrepreneur's organization, the network environment, the specific project or policy proposal and personal inclination were identified as the contextual factors of influence. However, the above categories are far from concrete, which suggests there is a need for a more detailed understanding of the ways in which policy entrepreneurs determine the selection of their strategies.

#### **Research Focus**

The area of interest is limited to innovative projects aimed at the implementation of decentralized water systems in the city of Amsterdam. More specifically, the redeveloping brownfield area Buiksloterham in the northern part of Amsterdam. Buiksloterham is intended to become a

neighborhood built according to the principles of a circular economy (Metabolic et al., 2015). The area contains two projects of interest that aim to implement features of decentralized water systems, which can be considered part of an attempt to establish a circular economy: 'Buiksloterham&co' and 'Schoonschip' (Stowa, 2017). Given that the public sector is responsible for the development of infrastructure in the public space, both projects will be connected to the same resource station for reclaiming nutrients from wastewater (Gemeente Amsterdam, 2017).

Investigating contextual factors of influence on the strategy selection process suggests many potential factors at many levels of scale would have to be considered. Nevertheless, given the focus on the involvement of individual policy entrepreneurs in the projects, the contextual factors under study are limited to factors at the 'micro- or niche-level'. Given that Brouwer (2015b) also focused on the micro-level of individual policy entrepreneurs, his contextual framework can be used as a starting point.

#### **Research Objectives**

This research aims to contribute to existing knowledge in two ways: First, the empirical contribution lies in acquiring context-specific knowledge on the establishment process of decentralized water systems in Amsterdam, viewed from the perspective of policy entrepreneurs involved. As potentially important actors in the transition arena under study, reflection on their perspective and the circumstances informing their strategic actions to influence the establishment of the projects seem highly relevant (Meijerink & Huitema, 2009). Second, the particular role and importance of policy entrepreneurs in the broader transition towards a new water system will be derived from their perception. As 'change agents' and knowledgeable actors, they can be expected to take up a catalyst' role in the transition to a new water system. They potentially do so by supporting the niche development of decentralized water systems, either via the alteration of policy structures that better incorporate the application of decentralized water systems, the manipulation of policy images, or by merely having a key role in the establishment process of the project (Baumgartner & Jones, 1991). The latter highlights an important difference between this research and previous studies. Although this research concurs with Brouwer (2015b) that policy entrepreneurs are ultimately seeking policy change, the founding of the projects can be seen as a means to achieve this ultimate goal. By successfully demonstrating its feasibility, policy change can be achieved. Thus, it is expected that entrepreneurial policy change strategies are not only employed to influence policy change directly, but also indirectly, by influencing the establishment process of a project.

The above research aims inform the successive main research question:

How does the context influence the strategy selection process of entrepreneurial policy change strategies employed by policy entrepreneurs involved in the founding process of projects implementing decentralized water systems in Amsterdam and how do they perceive their contribution to the transition towards a hybrid water system?

### 1.2 Research Justification

A wide range of motivations can be presented to highlight the relevance of studying the role of policy entrepreneurs from the Amsterdam water sector in establishment process of decentralized water systems. The justification of investigating decentralized water systems can be found in location- and sector-specific aspects. First of all, the Amsterdam population is expected to grow up until 998.000 inhabitants in 2050, which is projected to require an additional housing stock of 94.000 dwellings (OIS, 2016). Given the limited space for expansion outside the cities' borders, densification is advocated by the municipality (Gemeente Amsterdam, 2016). This leads to question whether the ageing centralized water system infrastructure is capable of dealing with a rising demand, without having to invest in robust centralized infrastructures that might not be suitable to implement future innovations for mining nutrients and reclaiming heat from wastewater using combined heat and power systems (Sharma et al., 2010). Additionally, the municipality itself carried out a research on the feasibility of implementing decentralized water systems (Gemeente Amsterdam, 2017). The study concluded the increase in housing stock should serve as an incentive to invest in decentralized water systems. The municipal sewage plan added to this claim that decentralized water systems should be applied when feasible in greenfield development, given decisions made now will determine the long term outcomes (Waternet, 2016a).

The justification for emphasizing the role of policy entrepreneurs in the specific context of establishing decentralized water systems is built on several components. Decentralized water systems are an important element of the municipalities' ambition to develop a circular economy (Circle Economy et al., 2015; Gemeente Amsterdam, 2017). In cooperation with specialized parties, the effects of adopting a circular economy for employment, environment, added economic value and the role of the municipality in facilitating such a transition was investigated (Circle Economy et al., 2015). 'The Circle City Scan' revealed the benefits of introducing circular initiatives in the construction sector and for exploiting organic residual streams. These benefits included a rise in employment, a cleaner environment, the emergence of new industries and an increase in global competitiveness (Circle Economy et al., 2015).

Despite the apparent benefits, barriers for the successful transition towards a circular economy in Amsterdam were also identified. Crucial items in this respect are legislation and policy structures at

various levels of scale that hinder innovations (Circle Economy et al., 2015). A relevant example for this research was the previous ban on making use of reclaimed phosphate from wastewater in the agricultural sector, which has only recently been removed (Ministerie van Infrastructuur en Milieu, 2015). The existence of such legislative barriers justify the explicit link between the role of policy entrepreneurs in transition contexts, as their ability to contribute to policy change by applying a wide range of strategies, might lead to 'breaking down' the barriers currently hindering the transition towards implementing decentralized water systems in the regime (Meijerink & Huitema, 2009; Meijerink & Huitema, 2010). The contribution of this research to transition theory lies in the assessment of policy entrepreneurs as 'transition catalysts', via the successful establishment of the projects or the creation of new policy structures.

### 1.3 Roadmap

This study commences by exploring the theoretical foundations of concepts that are covered within this research in Chapter 2. It focusses on the provisioning of key definitions and concepts that are used. First, the characteristics of policy entrepreneurs and the strategies they employ to establish change will be presented. Subsequently, the ways in which policy change processes develop will be discussed. Thereafter, policy change will be positioned in the wider context of transitions. Lastly, literature about decentralized water systems will be presented to highlight the technology of interest. This serves as a bridge towards the contextual background information from the particular research context in the third chapter. Chapter 4 is concerned with the development of a clear conceptual framework and the operationalization of the research questions. Subsequently, chapter 5 provides on overview of the methodology. Chapter 6 is the first empirical chapter and is mainly concerned with the identification of personal objectives for the projects, and how these relate to the general strategy selection process. Chapter 7 functions as the core of this research and addresses the ways in which contextual factors influence the application of two particular strategies. In chapter 8, empirical data on the perceived contribution from policy entrepreneurs to the transition is presented. The last chapter 9 provides concluding remarks about the results of the study.

# 2. Theoretical Framework

### 2.1 Introduction

As became apparent in the introduction, the area of inquiry covers many theories and concepts that require clarification before one can fully comprehend the positionality in scientific literature. The most important part of the storyline in this research are policy entrepreneurs, which is why an attempt will be made to focus on those aspects of socio-technical transitions, niche development and policy change that can be coupled with policy entrepreneurs. This study is mostly centered around a policy entrepreneurs' operating space in the social- and the political sphere- rather than in the technical sphere. Nevertheless, some technical matters of centralized and decentralized water systems, will also be discussed. This because technical challenges have implications for the legislative and governance challenges that decentralized water systems impose on existing structures (Yu et al., 2012). This in turn will provide information about the socio-technical environment in which policy entrepreneurs have to manifest themselves.

### 2.2 Policy Entrepreneurs and Entrepreneurial Policy Change Strategies

### 2.2.1 Policy Entrepreneurs

According to Brouwer (2015b), policy entrepreneurs can effectively be understood as 'special gifted' and 'risk-taking bureaucrats', working in the public sector, aiming for policy change while being involved throughout the policy change process. Although policy entrepreneurs are widely involved throughout the policy change process and might therefore contribute to the generation of new (policy)ideas and projects, the researchers' interest is limited to the follow up actions that are undertaken once new ideas are to be sold to other actors involved. The new ideas (decentralized water systems), have already been generated after all. The main issue at stake in the context of this research is the implementation. Furthermore, it is unlikely that in the transition arena where innovative ideas such as decentralized water systems are tested and challenged, successful implementation occurs by merely demonstrating a 'good idea', without a solid strategic plan. The focus therefore lies on the process of implementing (policy)ideas or projects.

As 'adventurous bureaucrats' and knowledgeable actors, policy entrepreneurs from the Amsterdam water sector can be expected to take up a leading role in the transition arena. Despite being important actors in policy change processes, their identification is less concerned with the exact role and position within these processes, but more so by the actions they employ (Brouwer, 2015b; Mintrom, 2000). Policy entrepreneurs are primarily driven by their desire to achieve policy change,

which becomes visible by their active involvement throughout the policy process, both for setting the goals and for implementation (Brouwer & Biermann, 2011). Furthermore, policy entrepreneurs have a higher willingness to deal with risks, while failure is seen as part and parcel of the job (Kingdon, 1984). The line of distinction between policy entrepreneurs and other policy figures working on policy change, such as 'policy intellectuals' and 'policy advocates', is made by recognizing the former being mostly involved in the generation of new ideas, while the latter is merely occupied with the translation of ideas into proposals (Brouwer, 2015b). Their ability to link policy proposals to issues and stakeholders in 'the field', and active participation in monitoring progress, classifies them as discernible 'advocates of change' in need for further research.

### 2.2.2 Entrepreneurial Policy Change Strategies

In this paper, the concise but nonetheless comprehensive framework of strategies that policy entrepreneurs in the Dutch water sector employ at the micro-level, will serve as a theoretical framework to understand how policy entrepreneurs' strategies contribute to the establishment of decentralized water systems in Amsterdam (Brouwer, 2015b; Brouwer & Huitema, 2017). In this framework, a clear distinction between strategies and tactics is not made, despite the apparent difference between the general understanding of strategies as broader 'aims and objectives' and tactics as 'activities' required for achieving these aims (Goldratt et al., 2002). The relevance of doing so is that one can only tell whether the effects of choices made was strategic or tactical, when viewed in retrospect (Koffijberg, 2005).

Several reasons exist for adopting this specific framework, instead of an alternative framework from the vast amount of literature on entrepreneurial policy change strategies employed by policy entrepreneurs (Meijerink & Huitema, 2010; Mintrom, 2000; Roberts & King, 1991; Taylor et al., 2011). First of all, the wide range of entrepreneurial policy change strategies previously identified, have been criticized for lacking clarity, while a certain degree of overlap between the various contributions was also found (Brouwer, 2015b). Secondly, although entrepreneurial policy change strategies might be universally applicable in any sector, strategies that have been tested in the Dutch water sector are likely to be more relevant for the specific context of this research.

### 2.2.3 Attention- and Support Seeking Strategies

To limit the usage of a confusing amount of entrepreneurial policy change strategies employed by policy entrepreneurs, ten mutually exclusive strategies are distinguished that fit into four categories. The first category, attention- and support-seeking strategies, are employed by policy entrepreneurs to highlight the relevance of a problem and for convincing other actors about their favored policy for

solving the problem (Brouwer, 2015b). Three strategies that are located within this category are: The demonstration strategy, rhetorical persuasion and the exploitation of focusing events strategy.

According to Brouwer (2015b), the demonstration strategy can be understood as a way to achieve policy change by portraying specific conditions as problems. The severity of these problems can be highlighted via the use of facts and figures to invigorate claims. Most importantly however, is the conclusion that when aiming to seek attention and support for problems, the demonstration of the proposed solution as a means to solve the problem turns out to be most efficient (Brouwer, 2015b).

The second strategy of rhetorical persuasion is often used simultaneously with the demonstration strategy (Brouwer, 2015b). Rhetoric is used when presenting facts, figures and subsequent solutions, which leads to the manipulation of policy images (Baumgartner & Jones, 1991). Lastly, the exploitation of focusing events strategy can be defined as making use of unexpected and rare events that potentially result in policy change. Crises or shocks are known to have profound influence on policy change, notably at times when knowledge and indicators of problems proved to be insufficient and an additional 'push' is required to gain political attention (Kingdon, 1984). Relevant for all the attention- and support seeking strategies, but arguably most for the latter, is the timing and alertness to exploit the 'policy window' to perform certain types of strategies (Brouwer, 2015b). In Table 1 at page 15, a schematic overview of the meaning and effectiveness of the discernible attention- and support seeking strategies is given (Brouwer & Huitema, 2017).

### 2.2.4. Linking Strategies

Linking strategies exist to develop coalitions, ideas, projects and policy games with other parties. These are defined as 'coalition building, issue linking and game linking' (Brouwer, 2015b). Aware of the significance of collaboration to establish policy change, coalition building with individuals and organizations serves as an important strategy for policy entrepreneurs to achieve their desired policy change outcomes (Brouwer, 2015b; Koppenjan & Klijn, 2004). Alternatively, distinct problems and solutions are also linked to one another in the issue-linking strategy (Brouwer, 2015b). These problems and ways of solving them are used for choosing and developing solutions that 'work' for all involved coalition partners and to cultivate better solutions. Lastly, when applied, game linking can be characterized as a 'give and take' process between actors involved, where concessions are being made to come to agreeable terms (Brouwer, 2015b). Occasionally, these strategies are used at the same time, depending on the time and context (Brouwer, 2015b). It seems imaginable after all that some coalitions cannot be built without the linking of interest via some sort of compensation.

Brouwer (2015b) argues that the effectiveness of coalition building is mostly dependent on contextspecific circumstances, instead of a 'rule of thumb' on the optimal size and composition of a coalition. Additionally, issue linking is done most effectively when policy entrepreneurs reflect on the nature, location and time frame of the projects. Furthermore, game linking can be considered feasible when actors involved show the willingness to accept the agreed conditions required for game linking simultaneously. Similar to attention- and support seeking strategies, timing is a major determinant of successful linking strategies (Brouwer, 2015b). Table 1 provides an overview of the distinct linking strategies employed by policy entrepreneurs (Brouwer & Huitema, 2017).

### 2.2.5. Relational Management Strategies

Relational management strategies are used to cope with relational aspects in policy change trajectories, which consist of 'trust building and networking' (Brouwer, 2015b; Taylor et al., 2011). Brouwer (2015b) contends that building trust and fostering good relationships have proven to be valuable in policy change processes in the Dutch water context. Despite its relative importance, networking and building trust as strategies are mostly applied in informal settings. The exploitation of a policy entrepreneurs' network determines the ability to maintain good relationships, while three types of essential contextual knowledge can also be acquired via networking, namely: Strategic knowledge, relational knowledge and normative knowledge. These types of knowledge serve as a way to gain additional insights in other stakeholders' ideas, preferred cooperation, assets and concerns, which eventually can be 'abused' to improve the strategic game of policy entrepreneurs. A lack of trust among actors is seen by Brouwer (2015b) as detrimental for policy change processes, which stresses the importance of carefully evaluating contextual knowledge before strategic application thereof. The relevance of trust building thus primarily lies in recognizing its fragile nature. In line with previous entrepreneurial policy change strategies, networking and trust building also generally occur simultaneously. Furthermore, Relational management strategies remain effective throughout the policy change process, given a degree of trust is a prerequisite to engage in cooperation, while clear communication and trust are essential for successful collaboration. For an overview of relational management strategies, Table 1 is used (Brouwer & Huitema, 2017).

#### 2.2.6. Arena Strategies

According to Brouwer (2015b), arena strategies can be applied to exercise influence over the location and timing of policy change processes by policy entrepreneurs. The time and loci in which the identification of problems and ideas are transformed into policy decisions is referred to as the arena. Distinguished strategies in this category are 'timing and venue shopping' (Brouwer, 2015b). By applying the strategy of venue shopping, policy entrepreneurs aim to surpass contemporary

practices and procedures by looking horizontally (at the same jurisdictional level) or vertically (to a higher- or lower jurisdictional level), for the most beneficial venue to support their ideas for policy change (Baumgartner & Jones, 1991). Despite the widespread believe among policy entrepreneurs within the Dutch water context that venue shopping might lead to neutralizing opponents and (or) strengthening of others, in practice policy entrepreneurs do not perceive sufficient freedom to bypass traditional procedures via venue shopping (Brouwer, 2015b). Contrastingly, as suggested by Meijerink & Huitema (2009), new venues have been created by policy entrepreneurs in the form of 'project-based organizations, task forces, advisory committees, feedback groups, and sounding boards'. The establishment of these new venues proved to be particularly effective when large-scale projects consisting of broad coalitions are concerned (Brouwer, 2015b).

Brouwer (2015b) suggests the timing strategy is used by policy entrepreneurs to exploit policy windows. By deliberately speeding up and slowing down policymaking processes, policy entrepreneurs manage to exercise influence over the progress that is made. Slowing down occurs by postponement, while speeding up becomes possible by setting deadlines (Brouwer, 2015b). In addition, timing has also been identified as a meta-strategy, that is to say, the effectiveness of all strategies relies on choosing the 'right' moment for action (Brouwer, 2015a). This has proven to be most significant for the exploitation of focusing events, as the occurrence of sudden events require fast response. Table 1 provides an overview of the 'ins- and- outs' of arena strategies (Brouwer & Huitema, 2017).

		What is key?	When effective?	When to avoid?	Pitfalls?
Attention and support seeking strategies	Demonstrating	Demonstrating that the desired policy change is a necessary and appropriate solution to a pressing and significant problem.	Particularly, but not exclusively, effective when ideas ought to be sold.	Demonstrating is less needed after the formal start of projects, that is, after the stage wherein ideas ought to be sold.	Demonstrating without interpretation and giving meaning, i.e. without rhetorical persuasion.
	Rhetorical persuasion	Feeling for the positions and preoccupations of others in order to adjust argumentation	Particularly, but not exclusively, when ideas ought to be sold and coalitions need to be built.	Rhetorical persuasion is less needed after the take-off phase of a project.	Losing an overall consistent story, and as a consequence, losing trust.
	The exploitation of focusing events	Feeling for the right timing, fast response and a proper preparation.	Immediately after (water safety) disasters or calamities actually take place.	When it takes the form of threatening or simulating a crisis and/or when it concerns events not related to (water) safety.	A late response; the strategy is effective only when exploited quickly after an actual crisis.
Relational management strategies	Coalition building	Feeling for the optimal level of collaboration while simultaneously minimizing delay and complexity.	The issue is not whether or not to build a coalition, but rather determining its most effective size and composition.	To avoid or minimize when it concerns a radical policy idea, when confidentiality is required, and when there is little time.	Too broad coalitions, resulting in unmanageable complexity and delays.
	Issue linking	Feeling for the optimal linking point; the point where added value turns into uncontrollable complexity.	When prerequisite for building coalitions or when substantive added, value may be created. Most effective degree of linking is context. Dependent.	When it implies collaboration with partners whose interests are too divergent, at the very beginning/ end of projects, and when there is little time.	Too much linking, resulting in unnecessary complexity; too little linking and the non- recognition of actual complexity.
	Game linking	Feeling for opportunities for giving and taking and a readiness to compromise.	When coalitions cannot be built without some form of compensation and issue linking is unrealistic or undesirable.	To avoid when future interaction with partners involved is uncertain.	Opportunism and unreliable trade partners; dealing with partners with a weak relation of trust.
	Networking	Feeling for the right moment in order to obtain as much as possible relevant contextual knowledge.	Effectiveness of networking primarily relates to the "with whom" rather than the "when" question.	Networking with national bureaucrats, national politicians, and non-governmental organizations is relatively less effective.	Internally losing one's image of loyalty due to considerable external networking activities.
	Trust building	Being reliable, stable, and predictable; demonstrating an open attitude, and communicating transparently.	In advance of a project (to make collaboration possible), throughout the project, and after completion of a project (relational outcome).	Trust building is considered important throughout policy change processes.	Trust is difficult and time-consuming to establish and relatively easy to lose.
Arena strategies	Venue shopping	Feeling for the most promising venue and composition of participants, while minimizing relational damage.	In surroundings (particularly in broad coalitions) that provide little or no support for policy change.	When the selection of alternative venues damages important relations (as a result of bypassing).	Relational damage along with the creation of venues without actual participation and decision making authority (fake venues).
	Timing	Feeling and constant alertness for opportunities, length of policymaking processes vs. strategic positions.	When anticipating new opportunities, elections and the arrival of executives	The strategy of timing is considered important throughout policy change processes.	Overlooking the possible disadvantages of setting deadlines that may worsen strategic positions.

### 2.2.7 Strategy Selection Process

The process of selecting the appropriate strategy to achieve the desired objectives is not surprisingly mostly determined by the context (Brouwer, 2015b; Meijerink & Huitema, 2009; Mintrom, 2000; Taylor et al., 2011). In this research, the context is understood as the specific characteristics of the policymaking process and projects that together compose the environment which informs a policy entrepreneurs' strategy selection. As mentioned earlier, this research thus focusses on contextual factors at the 'niche- or micro-level'. A central assumption is that entrepreneurs are knowledgeable actors and aware of their objectives (establishment of projects or policy change) and means to achieve those objectives (strategies). By choosing for a strategy in a specific situation, an individual policy entrepreneur assumes the strategy to be most appropriate in a given situation to achieve the preferred outcome. Brouwer (2015b) distinguishes four main contextual factors that are of influence on the strategy mix selection process, based on existing literature from the discipline of policy sciences which explicitly focused on the process of strategy selection: The specific policy proposal/project, the network environment, the policy entrepreneurs' organization and the personal inclination. In practice these contextual factors show some overlap. Nevertheless, these contextual factors will serve as distinct categories for analytical purposes.

#### **Network Environment**

The environment in which a policy entrepreneur employs its strategies to exert influence on the outcome of the project or policy proposal is categorized as the 'network environment' (Brouwer, 2015b). A first example of a contextual factor from the network environment is the level of trust in the network, which is believed to be a precondition for cooperation (Scharpf, 1997). The relative position and relation to other actors in the network serves as a second contextual factor, in which the attitude towards the project ranges from supportive, to aiming to prevent the project or policy proposal (De Bruijn & Ten Heuvelhof, 2008; McCown, 2004; Roberts, 1992). Furthermore, 'resource dependency' is also suggested to play a role in this respect, as legitimacy and financial resources are vital circumstances that inform the strategy selection process.

#### Specific Project/Policy Proposal

The characteristics of the specific project or policy proposal are believed to be of influence on the strategy selection process, such as the available time frame to carry out the projects (Roberts, 1992). In addition, the project size or scope is believed to have an impact on the chosen strategies as well, as larger projects across multiple sectors and organizations require a different approach to the strategy of coalition building (Brouwer, 2015b). Lastly, the salience of the policy or project could

affect the strategy selection process as well, as radicalness could be perceived as a threat by other actors, which results in extra caution related to coalition building (McCown, 2004).

#### **Policy Entrepreneurs' Organization**

Several indications in previous literature point to the fact that the individual policy entrepreneur's organization also influences the strategy selection process. Mintrom (2000) argues that the strategic activities of policy entrepreneurs are limited by the type or culture of the organization and its (financial) resources, while the organizational structures and routines is also believed to impact the chosen strategies (Currie et al., 2008). In addition, the preferences of directors or aldermen in power also determines which strategies can be employed, given that even the special-gifted policy entrepreneurs themselves have to cope with organizational hierarchy (Snare, 1995). In this respect, the freedom to make independent decisions on strategical actions has also been identified as a contextual factor within a policy entrepreneurs' organization (Brouwer, 2015b).

#### **Personal Inclination**

The last main contextual factor as identified by Brouwer (2015b) acknowledges the importance of an individual policy entrepreneurs' perceived reality for determining which strategies are used. It is argued that one's strategic actions are derived from earlier experiences, which is based on what one has seen and learned from before (Mintrom, 2000). The consequence of this idea is that the impact of other contextual factors, such as the specific project or policy proposal, the network environment and the policy entrepreneurs' organization, are always firstly filtered by a policy entrepreneurs' perception. According to Scharpf (1997), personal preferences for particular strategies originating from cultural or ideological customs also play a role. Perceived reality, personal experiences and personal preferences have been categorized by Brouwer (2015b) as 'personal inclination'. In Figure 1, a visual representation of the strategy selection process as developed by Brouwer (2015b) is given. The dotted line represents the idea that perception plays a role for the interpretation of other contextual factors.

#### Figure 1: Strategy mix selection process: Brouwer (2015b)



### 2.3 Policy Change

### 2.3.1 Room for Policy Change

An apparent dichotomy exists between the traditional view on policy change processes as merely allowing for incremental changes and recent views that identify more radical patterns of policy changes, namely paradigmatic changes (Hall, 1993; Lindblom, 1959). Though this distinction is rather extreme in nature, several scholars have argued such a view on policy change does not lend itself well to reflect the process in reality. It is argued that boundaries between incremental and paradigmatic change are not as clearly demarcated (Howlett & Cashore, 2009). Furthermore, paradigmatic policy change can also be seen as the sum of a series of incremental changes (Huitema & Meijerink, 2007). Although these nuances address the question of to what extent policy changes might occur, it does not provide insight in the ways in which policy change processes develop and the circumstances under which it occurs. Before one can investigate the ways in which the context informs the decision to apply particular policy change strategies, a broader description of theories on policy change processes is required, one that highlights the different contributions to knowledge of policy change processes. The main theories on policy change that have been previously coupled to theory on policy entrepreneurship by Brouwer (2015b), will be highlighted.

### 2.3.2 Policy Streams

Kingdon (1984) portrays policy change processes as resulting from three fairly independent streams: The problem stream, the policy stream and the political stream. The problem stream entails the revealing of the nature of a problem, with the perceived crises and indicators thereof. Policy streams in turn, serve as the ways in which the identified problem can be tackled, in terms of policy

proposals, initiatives and strategies. Lastly, the political stream situates political developments in a context, for instance, when changes in administration or actions from pressure groups occur. Only the complete integration of these streams will result in the creation of policy. The author anticipates a process of mostly randomly emerging streams, suggesting the opportunity for coupling these streams only occurs occasionally. This is referred to as the possibility to exploit a 'policy window' (Kingdon, 1984). The advantage of this particular framing of policy change processes when relating to literature on policy entrepreneurs, is the conception of the opening of these policy windows as the 'right place and time' for policy entrepreneurs to push through their ideas and proposals (Brouwer, 2015b). Furthermore, the recognition of multiple relatively independent streams provides a clearer framework for understanding when and why particular problems are perceived and eventually coupled to solutions in policy change while others are not. The policy stream model thus provides an explanation of the process of agenda setting and focusses on the short term specifics involved with policy change processes (Brouwer, 2015b).

### 2.3.3 The Advocacy Coalition Framework

In relative accordance with the view of policy images as ignitors of policy change, the advocacy coalition framework emphasizes the relevance of discourse and belief structures in policy subsystems for the policy change process, be it on a more fundamental level (Mintrom, 2000). Sabatier (1988) argues that a wide variety of actors (e.g. politicians, private sector, media) are interconnected in policy subsystems, that can be represented as a 'web' in which battles are fought between distinct coalitions for the dominant framing and evaluation of policy ideas. The shared belief systems within these coalitions "provide the principal glue of politics" (Sabatier, 1988, p. 141) Typically resulting from these battles is a single dominant coalition and a small number of minor coalitions, from which members of each of these coalitions act according to the shared belief system in order to influence the rules of government institutes (Sabatier, 1988). Most relevant for policy entrepreneurs is the contribution of this framework for understanding the dynamics involved with coalition building and the process of bringing stability to policy due to the inertia of discourse and belief systems (Brouwer, 2015b). The causes of policy change are seen as resulting from exogenous shocks which create friction in shared belief systems (Sabatier, 1988).

### 2.3.4 Working Towards a Definition of Policy Change

After having addressed the various theoretical contributions on how policy change processes occur, several concluding remarks must be made before a definition of policy change can be given considering the research context. The presented theories highlight different aspects of policy change, concerning the focus, scope and time spectrum. Nevertheless, there are some universal

lessons to be learned from these theories. First, to some extend they all acknowledge the difficulty to bring about policy change, given the complex multi-actor context and rare circumstances required before policy change processes occur (Kingdon, 1984). Second, the mechanism responsible for policy change is mostly seen as the result of a clash between innovative ideas and dominant practices and discourses in the policy arena (Brouwer, 2015b). In most cases, the difference is predominantly a matter of terminology (i.e. a shared belief system and discourse or prevailing policy images) (Baumgartner & Jones, 1991; Sabatier, 1988).

Baumgartner & Jones (1991), assume that room for policy change is mostly created by exogenous and endogenous shock events that shatter policy discourses or policy images. Given that policy change in reality neither develops randomly because of these shocks, nor with full and deliberate intentions of actors, space exists for individual actors in the policy process to exploit these shocks (i.e. by altering policy images or belief systems) (Meijerink & Huitema, 2009). Certain institutions and individuals have had more success in altering policy than others, which suggests policy change might not be entirely controlled, but at least possibly prepared or steered from time to time (Brouwer, 2015b; Meijerink & Huitema, 2010).

Despite the apparent space for directing policy change outcomes by means of an individual actors' actions, it should be acknowledged policy change is likely to be dependent on many other actors and aspects (Brouwer, 2015a). After all, the wider policy context and its specific structure also direct the pathway of policy change processes, while a multiplicity of other actors also further complicate policy change processes (Taylor et al., 2011). Nevertheless, it is in these circumstances that policy entrepreneurs are aware of their dependency on the specific policy context and the ways in which this context should inform their choice of particular strategies to establish policy change (Brouwer, 2015b).

### 2.3.5 Defining Policy Change

Given the fact that this research views policy change as a crucial aspect of socio-technical transitions, and the very notion of a transition implies fundamental change, it seems appealing to only speak of policy change when considered radical or paradigmatic, instead of incremental. However, as noted previously, the boundaries between incremental and paradigmatic changes are not as clearly demarcated while the sum of a series of incremental changes could also be seen as paradigmatic policy change (Howlett & Cashore, 2009; Huitema & Meijerink, 2007). Both Howlett & Cashore (2009) and Brouwer (2015b) bypass this issue by defining policy change as 'the degree to which innovative ideas and policy plans differ from contemporary ones', as perceived by policy entrepreneurs. A weakness of defining policy change in this way is a potential bias, given that actors

involved in the network might overestimate the degree of innovation or policy change, depending on their position and interest in the process. Nevertheless, given the uncertainty about a universal definition of policy change, knowledgeable actors in the policy change network seem the designated persons to assess the degree of innovativeness of ideas and policy proposals (i.e. policy change).

### 2.4 Transition Theory: Socio-Technical Transitions

Central to this research is the transition from contemporary technological, governance and institutional practices that characterize a centralized water system, towards a new water system that incorporates features of decentralized wastewater treatment and storm water catchment. In this study, the proposed meaning of a transition is that of a multi-level perspective on socio-technical innovation, entailing a variety of dimensions in the technical, cultural, social and institutional sphere (Geels, 2002). Socio-technical transitions can primarily be understood as long-term societal changes that require systemic innovations (Geels, 2002; Kemp et al., 2001; Schot et al., 1994). These transitions occur within multi-actor contexts at various scales, where the established systemic structure and relationships between actors within a societal system shift from one dynamic equilibrium to another (Grin et al., 2010). According to Geels (2002), the relative stability of dominant socio-technical configurations is a consequence of linkages between activities and social groups that (re)produce these linkages and practices. This results in a 'standardized' socio-technical regime that generally only allows for incremental changes (Geels, 2002).

The conventional process of a multi-level perspective on socio-technical transitions can be described in a number of steps (Geels, 2002; Kemp et al., 2001). Overall, one can speak of three distinguishable levels in a nested hierarchy that interact with one another. At the highest level, robust social and material landscape factors (e.g. the political system and spatial configuration of cities) exercise influence over the middle level, the socio-technical regime. The 'dynamically stable' socio-technical regime consists of several dimensions that determine the dominant framework of a socio-technical regime, such as user preferences, policy, technology, science and culture. External developments in the socio-technical landscape in turn exercise influence over these dimensions within the regime, which leads to the opening of windows of opportunity for niche technologies to settle (Geels, 2002). A crucial element of the multi-level perspective on transitions is the acknowledgement of the interdependencies between developments at the niche, regime and the landscape level. "It is the alignment of developments (successful processes within the niche reinforced by changes at regime level and at the level of the sociotechnical landscape) which determine if a regime shift will occur" (Kemp et al., 2001, p. 277).

At this point the important role of protective spaces for innovation becomes clear, as the mainstream and multi-dimensional selection environments that determine which innovations will be successfully integrated in the dominant regime, can be harmful to the early configuration and development of these innovations (Smith & Raven, 2012). Protective spaces for innovative technologies are seen as a crucial stepping stone for a transition to occur, as niches are often in need of protection and nurturing, before reaching appropriate levels of competitiveness for successful implementation in existing socio-technical regimes (Schot et al., 1994). According to Smith & Raven, (2012), protective spaces can be framed as either active- or passive protective spaces. The distinction primarily lies along the lines of an intended protective space (by means of policy) and unintended protective space (by coincidence or for practical reasons) (Smith & Raven, 2012). A knowledge gap to be filled on this subject is the analysis of the strategies employed by advocates of innovative technologies to 'mobilize passive protective spaces and creating active protective spaces through time' (Smith & Raven, 2012, p. 1034). The authors anticipate a non-linear process, where advocates of innovative technologies employ activities ranging from the mobilization of protective spaces within existing infrastructure, shaping public policy, exercising political influence and determining the cultural meaning of the niche when implemented in the regime. Although the term 'policy entrepreneur' does not explicitly imply being an advocate of innovative technologies, the described tasks above bear resemblance to that of a policy entrepreneur, given their profound interest to steer policy processes in the direction of policy solutions to problems associated with the implementation of niche technologies.

### 2.5 Centralized, Decentralized and Hybrid Water Infrastructures

After having outlined the general transition process, it is now relevant to define the specific niche technology that can be held responsible for a potential transition: Decentralized water systems. First, the future of centralized water systems will shortly be discussed. Second, definitions of decentralized water systems and hybrid water systems are given.

### 2.5.1 Future of Centralized Water Systems

A wide range of challenges have to be overcome to ensure economic viability and proper functioning of centralized water systems in the future (Sapkota et al., 2014) These challenges comprise socioeconomic factors such as an ageing population and population growth in some regions whilst decline can be expected in others, which implies current centralized infrastructures will have to operate above- or below capacity (Sharma et al., 2010). Ecological factors also pose challenges on water service systems, as present means of wastewater treatment in newly developed urban areas lead to conflicting objectives between protected natural environments and unsustainable practices of

discharging wastewater (Sharma et al., 2010). Furthermore, precipitation levels might vary tremendously in the future under the impact of climate change, which results in unpredictable levels of water availability (van Leeuwen et al., 2012).

Generally, centralized water systems reflect a limited adaptive capacity to permanently changing local contexts, both in terms of rapidly responding to changing demands, as is in terms of their capacity to implement recent innovations (Sharma et al., 2010). These are typical examples of lock-in processes, as water managers are facing the dilemma of having to maintain the central regime, whilst confronted with the inability of the central system to cope with upcoming challenges and innovations (Krozer et al., 2010). Sunk investments are looming, when large and costly investments for aging centralized water, wastewater and storm water infrastructures are required, notably when doubts arise whether centralized water systems are deemed fit to overcome the foreseeable and unforeseeable challenges ahead (Marlow et al., 2013).

### 2.5.2 Decentralized Water Systems

By defining a decentralized water system, a major dissimilarity between decentralized and traditional centralized water systems comes to the fore, namely the incorporation of a 'fit-for-purpose concept', which links the quality of water to the quality requirements for different types of end-uses (Sharma et al., 2010). In this paper the definition of Cook et al. (2009) will be used, because it recognizes the various levels of scale at which decentralized systems operate and the linkages with current centralized systems. A proper definition should acknowledge these aspects.

"Decentralized systems can be defined as systems provided for water, wastewater and storm water services at the allotment, cluster and development scale that utilize alternative water resources; including rainwater, wastewater and storm water; based on a 'fit for purpose' concept. These systems can be managed as standalone systems, or integrated with centralized systems. Wastewater streams are partially or completely utilized at or close to the point of generation. At cluster and development scale, storm water is also managed as part of an integrated approach that aims to control the quality and quantity of runoff at or near the source to minimize the impact of the development on the natural ecosystem" (Cook et al., 2009, p. 15).

### 2.5.3 Hybrid Water Systems

When innovations are concerned, the process of path dependency is likely to cause a slow and steady transition when aiming to implement decentralized technologies in the water sector, due to the legacy of costly centralized infrastructures governed by strong institutions (Smith & Raven, 2012). Entirely replacing existing centralized infrastructure will not be desirable, as it is both

economically and environmentally unfeasible to do so. As a result, increasing investments in developing and further testing of decentralized water systems are expected to eventually lead to the co-existence of a mix between centralized- and decentralized water systems, which is also referred to as a hybrid system (Sapkota et al., 2014). A concise definition of a hybrid system is the following: A multi-scalar water system, consisting of a centralized water supply system, combined with decentralized water techniques such as storm water harvesting and water reuse (Daigger & Crawford, 2007).

# 3. Contextual Background

# 3.1 The Amsterdam Water Context

The policy structures in place for the governance and legislation of the Amsterdam water system in general, are established by a network of organizations from the public sector. The unique circumstances in the Amsterdam region regarding the organizational structures and responsibilities of the water system require further explanation. Formally, the municipality of Amsterdam and regional water board Amstel, Gooi and Vecht (AGV) each have designated tasks. However, with the establishment of 'Waternet', the operational application of these responsibilities has been relocated (Waternet, n.d.). In Figure 2, the formal responsibilities from the public-sector organizations responsible for the water cycle in Amsterdam are presented. As is visible, Waternet is occupied with the operational management of the entire water cycle of Amsterdam.

Apart from carrying out tasks for the municipality of Amsterdam and water board AGV, Waternet is also engaged in a number of research projects. The recent founding of the collaborative research program 'Innovation in Water Governance' by water board AGV, which encompasses a variety of participants, highlights the need for additional knowledge on how to govern future water systems (KWR et al., 2016). It is expected that the emergence of decentralized water systems profoundly challenges existing roles and responsibilities of actors involved in water management (Sapkota et al., 2014). Such research initiatives inevitably lead to interaction between relevant actors, which is likely to provide an excellent 'playing ground' for policy entrepreneurs to employ their strategies to establish (policy) change.



*Figure 2: The division of responsibilities for the water cycle in the Amsterdam public sector: Waternet, n.d.* 

### 3.2 Projects in Buiksloterham

The redeveloping brownfield area Buiksloterham in Amsterdam north, incorporates three projects that aim to implement features of decentralized water systems, namely: 'Schoonschip', 'Buiksloterham&co' and 'De Ceuvel'. The latter is excluded in this research due to the fact that the project merely includes 15 house arcs. It can be questioned whether such a pilot project entails the active involvement of policy entrepreneurs, as it has not yet gained sufficient mass to significantly clash with incumbent policy structures (Grin et al., 2010; Smith & Raven, 2012). Schoonschip and Buiksloterham&co on the other hand, are projected to facilitate water systems for 47 and 500 dwellings respectively (Stowa, 2017). It is expected that large scale projects increase the complexity of the establishment process, as a wide range of actors and policy entrepreneurs from a variety of organizations are potentially involved. Furthermore, the 'off the grid' decentralized water systems that have been constructed at De Ceuvel, provide a less contested arena, as the established technologies did not require alterations in public space, to be financed with taxpayers' money (Stowa, 2017). The projects Schoonschip and Buiksloterham&co on the other hand, require significant public investment and alterations in public space, as the proposed construction of a communal 'resource station' for the mining of resources and nutrients from wastewater streams, has to be connected to the dwellings by multiple pipelines under public soil (Bisschops & Weijma, 2015). In Figure 3, an artist impression of the floating resource station is given.

### 3.3 Applied Features of Decentralized Water Systems

Although decentralized water systems entail many distinct features, only a limited amount of these features is applied within the projects of interest. In an assessment report executed by Bisschops & Weijma (2015), three waste (water) flows in Buiksloterham have been identified that can be utilized according to the principles of a circular economy: Black water from toilets, grey water from other household applications and biodegradable waste. Informed by technical and sustainability considerations, the report advised to implement vacuum collection and - transportation of black water, which can optionally be complemented by biodegradable waste to establish higher energy yields. These waste streams are transported to a floating resource station via vacuum pipelines for shredding. The output is transformed into biogas, which can be used to power the system or for other local applications. Struvite is a useful byproduct of the process, which can be used as a fertilizer. The report established that grey water will not be treated locally. Moreover, despite earlier intentions to reclaim residual heat from grey wastewater streams using heat exchangers, this feature will not be applied either. The resource station's location in the water served as a smart response to limited available space on land. Both the municipality and De Alliantie were opposed to

locating the resource station on land, as it would result in lower yields (Bisschops & Weijma, 2015). In Figure 3, an artist impression of the floating resource station is given.



Figure 3: Floating resource station: Waternet, 2016b

# 4. Problem Statement and Operationalization

### 4.1 Problem Statement

As demonstrated in earlier sections, both in- and outside academia awareness is growing of the wide range of challenges and opportunities that accompany the altering of contemporary systems of centralized provisioning of potable water, sewage and wastewater treatment. In the Amsterdam water context, the collaborative research program 'Innovation in Water Governance' established in 2016 by water board AGV, exemplifies this claim. The core questions about governance, policy and legislation of decentralized water systems in the collaborative research program highlight the need for investigating processes of policy formation, as changes in policy structures function as crucial elements to facilitate innovative technologies (Meijerink & Huitema, 2009). In accordance with Brouwer (2015b), policy entrepreneurs are expected to play an important role here, as they are involved throughout the policy change process (from policy proposal to actual implementation in the 'field'). Despite the fact that the context is seen as having major influence on the strategy mix selection process of entrepreneurial policy change strategies, a comprehensive contextual framework is absent. This research aims to fill this gap, by tracing the ways in which the projectspecific context informs the strategy selection process. After assessing the contextual factors of influence, the contribution of policy entrepreneurs to the transition can also be derived, as a rich understanding of the relationship between projects and policy formation is obtained.

### 4.2 Focus on Particular Strategies

The wide range of strategies presented in the theoretical framework all deserve further exploration, given that each of these strategies can be seen as crucial strategies to steer policy change (Brouwer, 2015b). Nevertheless, a selection of strategies before further inquiry has been made, due to limited time and resources. The choosing for particular strategies is based on contextual specifics of the projects and on theoretical grounds. Omitting particular strategies does not mean the strategies are of lesser importance for achieving the desired (policy)outcomes. Rather, within the context of this research, it is argued that some strategies might prove to be less relevant to further explore in detail than others.

### Attention- and support seeking strategies

According to Brouwer (2015b), rhetorical persuasion is strongly related to the demonstration strategy, as demonstrating problems and proposed solutions without the manipulation of a policy image is less effective. However, because rhetorical persuasion is argued to be mainly

supplementary to the demonstration strategy, this research will not explicitly investigate rhetorical persuasion in further detail. Furthermore, the exploitation of focusing events is also less suitable for this research, as rare and sudden events that can be coupled to the projects do not occur often, which decreases the need for further study. The demonstration strategy on the other hand, can be seen as highly important given the transition context in this research.

#### **Linking strategies**

Coalition building is highly relevant, given that policy entrepreneurs are dependent on other actors from the public sector for achieving their objectives regarding the projects. This partially due to the deviating formal responsibilities of each public-sector organization involved (Waternet, n.d.). Issue linking will not explicitly be addressed, as it is expected that from investigating the coalition building strategy, some examples can be derived. Game linking also proves to be less relevant, as potential concession packages might be located beyond the scope of this paper. In addition, ventilating sensitive information about future policy games with other actors could ruin the strategic game. Respondents could therefore be reluctant for sharing information about this strategy.

#### **Relational management strategies**

Networking with actors involved is vital for gaining strategic knowledge about the preferences of others parties regarding the projects (Brouwer, 2015b). However, given that networking and coalition building overlap, it is assumed that addressing both strategies would be less vital. In addition, the importance of trust building in any context and throughout the process is so evident, that further inquiry seems less valuable (Brouwer, 2015b).

#### Arena strategies

The variety of possible options to search for the ideal location to exercise influence on policy change process, such as finding support on a different level of authority or the creation of a new 'venue', proves to be relevant because of the subsidies that can be acquired for the projects at various levels of scale (Brouwer, 2015b). However, given time limitations this strategy cannot explicitly be addressed. The same holds for the timing strategy, both as an independent strategy as a strategy at the meta-level.

### 4.3 Conceptual Model

The presented conceptual model in Figure 4 is derived from the relationships between concepts previously identified in literature. The first part of the framework is concerned with the identification of (individual)stakeholders involved in the establishment process of decentralized water systems in

Amsterdam. Regarding the projects Schoonschip and Buiksloterham&co, the municipality, Waternet and housing corporation De Alliantie are the public-sector stakeholders involved (Metabolic et al., 2015). The municipality ensures compliance with zoning regulations and the issuing of permits. Waternet is responsible for the construction of the resource station and the vacuum pipelines in public space. De Alliantie performs the role of project developer. Among these stakeholders, several policy entrepreneurs can be identified. They are expected to employ the demonstration- and the coalition building strategy as framed by Brouwer (2015b). The strategy mix selection process is both influenced by the policy entrepreneurs' individual inclination and the specific context. Within this research, the context informing an individual policy entrepreneurs' strategy selection is assumed to consist of the policy entrepreneurs' organization, the specific project or policy proposal and the network environment (Brouwer, 2015b). The contextual factors serve as independent variables Y, whereas the strategy mix selection process is the dependent variable X.

Figure 4: Conceptual framework: Based on Brouwer (2015b).



# 4.4 Research Questions

As presented in the introduction the successive main research question is addressed:

How does the context influence the strategy selection process of entrepreneurial policy change strategies employed by policy entrepreneurs involved in the founding process of projects implementing decentralized water systems in Amsterdam and how do they perceive their contribution to the transition towards a hybrid water system?

The following set of sub-questions is required to answer the main research question:

- 1. Which policy entrepreneurs from the public sector are involved with the founding of decentralized water systems in Amsterdam and what are their personal objectives regarding the projects?
- 2. How does the context of the projects influence the strategy mix selection process of entrepreneurial policy change strategies?
- 3. How do policy entrepreneurs perceive their contribution to the transition towards a hybrid water system in Amsterdam?

## 4.4 Operationalization

The first research question is answered by tracing the policy entrepreneurs involved in the establishment process. For the second research question, open coding is used to identify the contextual factors of influence on the strategy mix selection process, to ensure the development of a comprehensive contextual framework. The third research question is answered by asking the identified policy entrepreneurs to reflect upon their roles regarding the most relevant policy changes.

# 5. Research Design and Methodology

# 5.1 Nature of Research

Given that the establishment of a more concrete contextual framework was aimed for, an explorative research was conducted to fill this research gap. Inductive reasoning was applied, as the potential contextual factors of influence on the selection of particular strategies were used to construct hypotheses which are most probable for the empirical evidence. The weakness of an inductive approach is that the conclusions drawn, in this case the identified contextual factors, might be only valid for the particular cases under study (Bryman, 2012). However, understanding the influence of particular contextual factors is precisely what was aimed for in this research, which justifies the choice for this approach. Nevertheless, generalizations must be made carefully.

# 5.2 Research Strategy

Although the interview guide and survey in Appendix A suggest a mixed-method approach was applied, the main strategy to acquire data was via the application of qualitative research methods. The survey merely functioned as a way to provoke the respondent's thoughts, in search for relevant entries to start the conversation. The decision was based on the assumption that quantitative methods are less suitable for obtaining a deep understanding of contextual factors of influence on the strategy selection process, as perceived by policy entrepreneurs themselves. The above forms the core of this research and covers the second research question. The answering of the first and third research questions also requires a policy entrepreneur's perception, which seems a complex matter to measure quantitatively when a comprehensive framework is absent. Personal objectives regarding the projects and the perceived contribution to a transition will therefore also be obtained via a qualitative approach. By taking an interpretivist position, interest primarily lies in tracing the meaning of personal experiences, rather than generating results in numbers. The epistemological stance can thus be described as: 'understanding the social world through an examination of the interpretation of that world by its participants' (Bryman, 2012, p. 380).

## 5.3 Research Design

Initially, the intention was to implement a comparative case study design, which originated from the desire to increase the external validity of this research. By investigating the two largest projects that aimed to implement decentralized water systems in the city of Amsterdam, Schoonschip and Buiksloterham&co, it was expected that the different ways in which the context influences the strategy selection process would better come to the fore. However, due to geographical proximity of

the projects Schoonschip and Buiksloterham&co, almost all policy entrepreneurs had been involved in both projects. Moreover, many policy entrepreneurs viewed the projects as closely related, if not a single project, mainly because both projects would be connected to the same resource station. For these reasons, eventually a single case study design was chosen, united under the name of projects that aim to establish decentralized water systems in Buiksloterham. A positive consequence was that when interviewing the respondents, the explicit line of distinction between both projects was not required anymore, which reduced the risk of inaccurate data.

### 5.4 Research Methods Phase 1 and 2

Two phases of data collection were conducted for this research. The first phase served as an orientation, to discover more concrete examples of contextual factors that influence the strategy selection process. The respondents were asked which factors they took into consideration when determining their strategic approach for the project. The idea was to establish a clearer image of a policy entrepreneurs' considerations, given that existing literature merely contained abstract categories. In this phase, short interviews were held with two policy entrepreneurs employed by Waternet, who had been involved in the projects in Buiksloterham. The initial findings served as an indication of the contextual boundaries of this research. In Figure 5, a visual image is given of how the strategy mix selection process was envisioned at this stage.

Before commencing with the second phase, respondents were asked to read the interview questions and the definition sheet in advance, to ensure the complexity of the question would not overwhelm them during the interview. After provoking the respondents' thoughts with a survey, a semistructured interview was held. A semi-structured interview was chosen over an open interview to assess the potential contextual factors of influence on the strategy selection process in a structural manner. Given the multiplicity of strategies and contextual factors, structure was required to ensure analysis in later stages could be executed in a structured way as well.



#### Figure 5: Initial ideas regarding the strategy selection process: Based on Brouwer (2015b)

# 5.5 Units of Analysis

With the alteration of the research design to a single case study, data from the different projects under study could no longer be aggregated from the individual level, to the level of the projects. However, given the conclusion from Brouwer (2015b), that personal inclination plays a major role for the interpretation of other contextual factors in the strategy selection process, the relevance of using the projects as the units of analysis decreases, as it would unrightfully downplay the influence of an individual's perception. Therefore, the individual policy entrepreneurs were chosen as the units of analysis, which also leads to better comparison with Brouwer (2015b), as the theoretical framework he developed was also based on the individual policy entrepreneur as the unit of analysis.
# 5.6 Sampling

Non-probability purposive sampling, or more specifically a combination between theoretical- and snowball sampling was applied for the sampling process of the cases and participants, because of this research' main reliance on theoretical, rather than statistical selection criteria (Glaser & Straus, 1967). The aim of purposive sampling is to select cases and participants in such a way that the sample is suitable for answering the formulated research questions (Bryman, 2012). Due to the particular framing of the research questions of specific strategies that are employed by rare 'adventurous bureaucrats', probability sampling seems unfeasible. Furthermore, the limited number of projects in Amsterdam that aim to implement features of decentralized water systems also motivated the application of this specific combination of sampling methods.

In line with other studies, this research' scope is limited to policy entrepreneurs that are officially employed in the public sector (Brouwer, 2015b; Kingdon, 1984; Mintrom, 2000). Defining which particular organizations involved with the projects can be considered the public sector, has consequences for which individual actors involved are eligible for the sample of policy entrepreneurs, which is a highly debatable matter. To solve this dilemma, the model in Figure 6 from Dube & Danescu (2011) was applied to assess whether an organization can be considered part of the public sector. See Appendix B for a comprehensive description. The municipality is part of the core environment, Waternet functions as an agency, while housing corporation De Alliantie is classified as a public enterprise.





The identification of the first policy entrepreneurs in phase 1 became possible due to the researcher's position as intern at Waternet. Several colleagues suggested that the proposed individuals would meet the criteria of a policy entrepreneur, while the respondents also recognized themselves in the description. From then onward, access within the network of the projects was established, after which the snowball sampling method could be applied. A sequential approach to purposive sampling was applied, meaning the process of sampling was seen as evolving, by progressively adding participants to the sample (Bryman, 2012). However, the criteria for selecting participants remained constant, meaning that the definition of a policy entrepreneur was not altered during the data collection phase. The sample can thus be understood as an a priori purposive sample (Bryman, 2012). After 8 interviews, it became clear that saturation was reached, as the individuals that were recommended by respondents that would fit the criteria, had already been interviewed. Given the strict sampling criteria, a small but valid sample seemed a logical consequence.

# 5.7 Analysis of Results

First, all the recorded interviews were literally transcribed in Microsoft Word. Subsequently, the interview transcripts were uploaded to the program Atlas.ti to ensure a systematized qualitative analysis. A combination of open- and thematic coding was applied, as theory about the main categories that influence the strategy selection process gave some direction, but provided insufficient details to allow for thematic coding only. During the first cycle of open coding, various new themes and contextual factors were identified to be of influence on the application of particular strategies, while memos were developed to memorize initial thoughts of how any particular fragment could be used. During the second cycle, axial coding was applied, to develop typologies and to identify reoccurring patterns and rules. In this cycle, a last assessment took place to ensure the codes would not overlap. In general, the approach was to identify a strategy in a fragment and then assign a code to it which represented a particular contextual factor. By doing so, the query tool could be used to select all contextual factors of influence on a particular strategy.

# 5.8 Limitations

Given the fact that this research was merely executed as a part of a Master Thesis project, limited time and resources were available to address all the issues and recommendations from other authors that studied the same subject. This limitation was most notably felt in the lack of time to address all the entrepreneurial policy change strategies that were identified by Brouwer (2015b). Therefore, the proposed role of the contextual factors that came to the fore in this research are only valid for the demonstration strategy and coalition building. Nevertheless, the developed contextual framework can be applied to the investigation of other strategies in the future.

A second important limitation of this research is related to the sample. The possibility remains that sampling errors were made when selecting the policy entrepreneurs, as eligibility relied on selfidentification or the accounts of others, which were based on theoretical grounds. In some cases, respondents did not recognize themselves in the definition, or stated that they were not heavily involved in any of the projects. Obviously, these participants were excluded from the sample. Nevertheless, the fact that all respondents which actually participated in the research acknowledged being a policy entrepreneur, suggest the sample can be considered as relatively trustworthy.

Another limitation is that this research' scope was restricted to projects that aim to establish decentralized water systems in Buiksloterham. Although a narrow scope is generally advocated in academic research, this particular scope has resulted in an unequal distribution of respondents from the public-sector organizations that are involved in the project. Due to Waternet's responsibility for managing the entire Amsterdam water cycle, most identified policy entrepreneurs that were involved in the project were employed by Waternet. As a consequence, the ways in which the entire sample of policy entrepreneurs assessed the influence of their organization on the strategy selection process, might have been heavily determined by the perception of a single organization. On the other hand, the assumption that this should be a major concern, can be weakened by the conclusion that especially the individual inclination, is of great influence of the policy entrepreneur's organization on the general strategy selection process. Furthermore, the primary aim was not to determine which contextual factor turned out to be of most importance. Rather, a complex understanding of all the contextual factors that were of influence on the strategy selection was aimed for.

# 5.9 Ethics

The establishment process of the projects aimed at implementing decentralized water systems in Buiksloterham is still ongoing, which suggests the ethical consideration of harm to participants is even more important to take into account. The potential harm stretches beyond the individual, as the establishment process can even be disturbed if sensitive information ends up in the wrong hands. To prevent harm to participants, several measures have been undertaken. First, the interviews were anonymized, meaning it was made impossible to trace the interview back to the respondent. Second, the interview transcripts were forwarded to the respondent, to reaffirm consent, which increased the likelihood that the generated data could be used without inflicting harm. The ethical consideration of a lack of informed consent was also taken into account, as a detailed and comprehensive 'information sheet' about the research' aims and intentions was sent to

the respondents prior to the interviews. This sheet included a consent form which had to be signed by the respondent. Appendix A provides an overview of this information sheet. Third, given that this research touched upon several personal factors, the invasion of privacy had to be limited. Prior to the interviews, it was clearly stated that the respondents were able to decide freely when and how to answer to the interview questions. A last factor of ethical consideration, that of the absence of deception, was proven to participants by clearly stating the purpose of this research, while promises were made to request for reconfirmation before publication of the results. The above mentioned ethical considerations are deemed crucial, that cannot be violated under any circumstance. This research thus reflects a universalist stance regarding ethical considerations (Bryman, 2012).

# 6. Personal Inclination and Personal Objectives

In this first empirical chapter, the specific activities and objectives of the individual policy entrepreneurs and their organizations involved with the projects are presented. By highlighting the personal objectives, an initial attempt is made to investigate the influence of personal inclination on the general strategy mix selection process. In accordance with Brouwer (2015b), this research also acknowledges that the strategy mix selection process is a result of contextual factors that interact with the personal inclination. Therefore, this chapter will commence by investigating the relationship between personal- and organizational objectives as important contextual factors that could inform a policy entrepreneurs' decision for applying a particular strategy mix. The goal is to trace the ways in which organizational- and personal objectives are interrelated, and how policy entrepreneurs cope with potential differences. It will be discussed if potential differences therein can serve as valid examples of the relative importance of personal inclination above other contextual factors for the general strategic approach. Lastly, an attempt will be made to step away from the general strategy selection process, by identifying examples of ways in which the personal inclination influences the application of specific entrepreneurial policy change strategies.

# 6.1 Organizational Roles & Objectives

The different responsibilities the public-sector organizations have for the establishment process of decentralized water systems in Buiksloterham, determine the organizational objectives regarding the projects to a large extent. Given the unusual division of responsibilities for the managing of the Amsterdam water cycle, Waternet is engaged in the construction and maintenance of all infrastructure required for the functioning of the new system in the public space. As a result, the role of the municipality of Amsterdam in Buiksloterham is merely focused on the issuing of land, preparation of sites for construction and compliance with zoning regulations. Housing corporation De Alliantie was traditionally founded for the provision of sufficient social housing for an affordable price. Nevertheless, with the project Buiksloterham&co it engaged itself in a more complicated task that reaches beyond their traditional expertise. The proposed infrastructure, which includes a dual vacuum pipeline connected to the resource station and vacuum toilets, will have to be constructed under their supervision.

Although all three parties acknowledge the need for experimentation with decentralized water systems to contribute to the development of sustainable cities, the municipality of Amsterdam and De Alliantie do not value the establishment of decentralized water systems to the same extent as Waternet. The differences mostly lie in terms of priorities, which are strongly connected to the general objectives of the public-sector organization. Waternet is highly interested in experimenting

with decentralized water systems, given the fact that it is their core business, which is reflected in their role as initiators of the projects. The objectives of Waternet regarding the projects in Buiksloterham are primarily centered around the question whether decentralized water systems serve as a viable alternative for traditional centralized water systems. This can be illustrated by the following: *"For about a hundred years we have executed our tasks by using traditional, centralized water systems, but with limited attention for innovation. Now we want to discover whether decentralized water systems are potentially comparable, if not better than traditional centralized water systems in terms of costs and benefits" (R1, 2017). Apart from economic incentives, the organizational objectives regarding the projects also include the solving of governance challenges that these new systems impose. Furthermore, the development of a new organizational identity is also desired: <i>"We are also interested in the cooperation process with other actors, such as project developers, municipalities and private parties, on how to monitor the system and who is responsible for daily maintenance. We aim to present ourselves as a network organization" (R3, 2017).* 

A respondent from the municipality of Amsterdam also perceived differences in organizational objectives regarding the establishment of decentralized water systems in Buiksloterham between actors. An explanation for the different objectives was also given: *"To put it bluntly, it was Waternet's idea, it was their party (...) but there is clearly more nuance to it. Much has to do with the particular construction of Waternet as our operational organization. We cooperate and are aware of the division of responsibilities between us, but it is just organized differently, they would be part of my team, but from a different department, instead of a distinct organization" (R6, 2017). As correctly noted, the objectives between the municipality and Waternet slightly differ, but it seems logical to assume this would not be any different if Waternet would be a formal department of the municipality. Negotiation between departments of the municipality, while each having different responsibilities and objectives would have to occur nevertheless.* 

Though part of the coalition, De Alliantie does not view innovation in the water cycle as its primary task, while economic considerations also limit the ambitions. This was put in the following way: *"Every additional penny we spend on the construction of our dwellings is in conflict with our primary task: Providing affordable social housing. I can only justify the application of innovative technologies if it reduces the monthly expenditures of our residents, to create a business model" (R8, 2017).* The respondent also considered abolishing the ideas for implementing decentralized water systems in the neighborhood: *"We encountered a lot of resistance within the organization, it has been tough to convince my superiors of the value of decentralized wastewater treatment. Nevertheless, we have come so far, it would have been a waste of effort and energy not to carry on" (R8, 2017).* 

A last note on the definition of the organizational objectives was made by one of the policy entrepreneurs from Waternet. The following was stated: *"The variety of objectives that we have regarding the projects are neither well-defined, nor commonly shared within the organization" (R2,2017).* This quote implies that personal objectives of the individual policy entrepreneurs differ significantly within- and between organizations and individuals. It suggests that personal objectives are primarily a product of one's personal or preferences for the project outcome. This means that personal objectives can be seen as at least partially separated from the policy entrepreneurs' own organization. It is therefore required to investigate the personal preferences and - objectives and its consequences for the personal strategic inclination into more detail.

In the next section, the individual respondents will be presented, after which a comparison is made between organizational- and personal objectives, to investigate the degree to which these objectives differ. The ways in which the policy entrepreneurs cope with differences, might provide evidence of whether policy entrepreneurs within this research context prioritize establishing their personal- or their organizational objectives. These findings can indicate the relative importance of the personal inclination for the strategy selection process.

# 6.2 Respondent Characteristics & Personal Objectives

The most relevant characteristics of the respondents are listed in Table 2, comprising the policy entrepreneurs' organization, the projects involved, activities related to the projects and the personal objectives. Given the focus of this research on decentralized water systems, the high number of respondents from Waternet should not come as a surprise. The wide range of responsibilities assigned to Waternet in the Amsterdam water cycle, increases the chances that employees from Waternet are engaged in the project and willing to influence its outcome. Resulting from the interdependencies between Schoonschip and Buiksloterham&co via public infrastructure, such as communal vacuum pipelines and the resource station, most policy entrepreneurs are involved in both projects. Respondent number 8 constitutes an exception, due to the fact that De Alliantie's involvement is limited to Buiksloterham&co.

# Table 2: List of respondents, characteristics and personal objectives

Respondent number	Policy entrepreneurs' organization	Projects involved	Personal objectives regarding project(s)	Activities related to the project(s)
R1	Waternet	BSH & Co and Schoonschip	<i>"I want to get it done, and contribute to a new and sustainable world"</i>	Influencing policy, operational execution of pilot project. Involved since early 2016.
R2	Waternet	BSH & Co and Schoonschip	"The discovery of future possibilities for wastewater treatment, to cooperatively embed it within the broader societal environment"	Initiate strategic developments, process facilitator, moderator and initiator of manifest 'Circulair Buiksloterham'. Involved between 2013- 2015.
R3	Waternet	BSH & Co and Schoonschip	"I do not want to establish the decentralized water system by forcing it upon residents by law, but out of free will"	Networking and coalition building to establish decentralized water systems. Involved between 2015-2016.
R4	Waternet	BSH & Co and Schoonschip	"Our current methods of wastewater treatment is unsustainable. I compare it to the following metaphor: Throwing a needle in a haystack and then aim to retrieve it. Decentralized water systems can improve our practices"	Technical research, coordination, monitoring policy change. Involved since 2014.
R5	Waternet	BSH & Co and Schoonschip	"I hope we will learn a great deal from these projects, it is vital to experiment with future water systems".	Process management, technology expert, policy and strategy development. Involved since 2015.
R6	Municipality of Amsterdam (G&O)	BSH & Co and Schoonschip	"Experimenting with decentralized wastewater treatment in Buikloterham, in order to determine if we should implement it city-wide".	In charge of project team. Prepare sites for building, responsible for infrastructure and public facilities. Involved between 2011-2016.
R7	Municipality of Amsterdam (R&D)	BSH & Co and Schoonschip	"I hope to achieve the circular ambitions of the manifest in Buiksloterham Not only for the decentralized water systems in the dwellings, but also infrastructure and existing companies".	Assessing actors' compliance with circular ambitions, developing policy documents. Involved since early 2016.
R8	Housing Corporation De Alliantie	BSH & Co	"Attempting to build social housing for a reasonable price, while also learning how to establish systems for decentralized wastewater treatment"	Project coordination, negotiation with municipality and Waternet, project realization and directing contractors. Involved since 2015.

#### **Personal Objectives**

As visible in Table 2, all personal objectives highlight the potential contribution of the project to the creation of a more sustainable water cycle. Experimenting with decentralized water systems and subsequently changing contemporary unsustainable practices of wastewater treatment serve as the primary personal objectives. Apart from projected changes in the water system, policy change is also aimed for by some of the respondents, although not explicitly stated. This can be illustrated by the following passage from a policy entrepreneur working for the municipality: *"The aim is to experiment with decentralized wastewater treatment in Buiksloterham, in order to determine if we should implement it city-wide" (R6, 2017).* Naturally, the consequences of applying the decentralized water systems city-wide imply the alteration of policy at the city level, given that contemporary policy as formulated in the recent municipal sewage plan strictly limits the application of decentralized wastewater treatment to greenfield development (Waternet, 2016a).

A number of respondents is also prepared to take risks to establish the decentralized water systems. Respondent number 8 from De Alliantie, highly values learning from experimentation with decentralized wastewater treatment, despite its clearly defined goal of providing cheap social housing. Potential delay due to unforeseen complications with the construction might lead to increasing costs, which poses a huge risk on the budget of the housing corporation for the project. Another example of what can be considered risk-taking behavior, is the objective of respondent number 3. The following was stated: *"I do not want to establish the decentralized water system by forcing it upon the residents by law, but out of free will" (R3, 2017)*. By exhibiting noble intentions for accomplishing the objectives without force, avoidable risks are taken, as the municipality could have implemented the application of decentralized water systems into building regulations. This is illustrated by respondent number 4, employed by Waternet, who argued: *"It would be much easier to establish the system if the municipality would enforce it via building regulations, which is surely possible" (R4, 2017)*. Nevertheless, enforcement to implement the decentralized water system has not occurred.

## **Comparing Personal- and Organizational Objectives**

At first glance, most personal objectives do not seem to differ tremendously from the organizational objectives. In general, both the individual policy entrepreneurs and the public-sector organizations involved stretch the importance of experimenting with decentralized water systems to contribute to the creation of a more sustainable water system. However, this argument is less valid for the policy entrepreneurs from the municipality and De Alliantie. Especially the policy entrepreneur from De

Alliantie shows a higher willingness to establish the decentralized wastewater system compared to the home organization, which primarily supports implementation of the decentralized water system if utility costs can be reduced. Furthermore, it also seems as if the perceived difference between organizational- and personal objectives is centered around the process of achieving the end-goal. This became visible in the desire from a policy entrepreneur to establish the decentralized water systems without forcing it upon residents, while for the sake of rapid progress, force could have been imposed to increase the likelihood of successful establishment, as was primarily aimed for by the policy entrepreneurs' organization.

The results indicate that personal preferences definitely play a key role, as the desire to achieve personal objectives in some cases even led to outweighing the organizational objectives. This turned out to be the case for the policy entrepreneur from Waternet who wanted to establish the projects without enforcing it upon residents. Loyalty towards ones' ideas of openness and inclusiveness in the establishment process was deemed more important than responding to signals from colleagues and other actors to employ a different and more 'project-oriented' approach. The result was exclusion from the project, to ensure the project could be established more rapidly. The above suggests personal inclination is an important aspect that determines a policy entrepreneurs' strategic actions regarding the projects, but it turns out to be relatively insignificant when in conflict with the objectives of the organization.

Another illustration of the importance of personal objectives for determining the strategy selection process can be derived from correspondence with the policy entrepreneur employed by De Alliantie, who remained faithful to his desire to experiment with decentralized water systems, despite encountering resistance within the own organization. An important nuance here however, is that the decentralized water systems will be established with a subsidy that ensures no additional cost above the costs of regular waster systems. The respondent acknowledged this factor: *"If we would not be able to utilize this subsidy, I am sure I would not have been able to convince my superiors to implement systems for decentralized wastewater treatment, despite my sincere intentions and those of other actors" (R8, 2017)*.

From the above examples, it can be derived that personal inclination has its limits within the general strategy selection process, when assuming that personal objectives inform a policy entrepreneur's personal strategic inclination. Personal objectives have shown to be either abolished when in conflict with the organizational objectives, or resulting to exclusion from the project. Nevertheless, in at least two cases individual policy entrepreneurs have demonstrated the importance of personal preferences for displaying general strategic behavior regarding the projects. This is in accordance

with Scharpf (1997) and Brouwer (2015b), who stress that personal preferences originating from ideological customs are of influence on the general strategy selection process of policy entrepreneurs. In the next sections, an attempt is made to investigate the ways in which the personal inclination affects the application of particular strategies.

# 6.3 Personal Inclination & Strategies

A first striking observation after having analyzed the empirical data is that personal factors which altogether constitute the personal inclination, are rarely named explicitly as being of major influence on the application of a specific strategy. In accordance with Brouwer (2015b), this research established that personal inclination seems to function as an invisible filter that weighs the influence of other contextual factors. This increases the difficulty for the researcher to determine its relevance when choosing for a particular strategy, as it requires imagination. Nevertheless, an attempt will be made to highlight how personal inclination and other contextual factors interact, to demonstrate the relevance of personal inclination for both the strategy mix selection process as a whole and for specific strategies. This section will only briefly address interaction with the other contextual factors of influence, given that chapter 7 will focus on those contextual factors.

#### **Demonstration Strategy**

Empirical evidence suggests that personal factors which together constitute the personal inclination are of great influence on the application of the demonstration strategy. The ways in which different personal factors reflect some overlap also comes to fore in the next quote, where perceived reality and knowledge and skills are interrelated: *"Every person has a manual. Some people are susceptible to a proof of concept, others to facts and figures. Then again, others are only convinced if the neighbors do it as well. It can all work, but you need to identify common grounds, it differs per person" (R2, 2017).* The passage suggests that perception is important for determining how to best demonstrate the value of a project or policy, given that a person's characteristics have to be perceived and analyzed. The latter also implies knowledge and skills are required, as one has to possess the capabilities to estimate what would work. With the latter, the contextual factor of the position and relation to other actors is also of importance.

Another example of the relevance of knowledge and skills for the demonstration strategy is the following: *"I believe in what I do, my strength lies in inspiring others by presenting. It is also choosing for the right moment, I feel that" (R5, 2017).* One can argue that choosing the right time to demonstrate the value of a project is part of a skillset. However, it also serves as a bridge to timing as a meta strategy: To choose the right moment to demonstrate the project. The next quote also

touches upon this aspect, in combination with personal objectives: "I could have demonstrated the project to a wider public. I was invited to a congress, I could have accepted interviews in the newspaper or organized guided tours. However, I found it more important to focus on the objective, which for me was to establish the project (...) You have to be given time and space to start the pilot projects, to make mistakes. Once you get the feeling, something is happening, that is the time to show yourself to the outside world" (R6, 2017). The policy entrepreneur from the municipality deliberately chose not to demonstrate the projects to a wider public, as the timing was not right, given that too much attention could be of disturbance in early stages of the projects.

### **Coalition Building**

The data suggest that personal inclination is closely related to other contextual factors, such as the business case and preferences of directors and aldermen in power, when the strategy of coalition building is concerned. The following quote illustrates this: *"The financial conditions under which the coalition for the projects develops, is dependent on who is in power. The liberals are currently in charge at the Waterboard, they love to cut down public spending and forwarding responsibilities to the private sector. I think we should show more courage, for the sake of innovation, by investing more in the projects. I agree large risks should not be taken, but a healthy mix between costs and a progressive ideology is what I am aiming to establish at Waternet for the projects" (R1, 2017). The above reflects the interrelatedness of personal- and contextual factors for determining the financial conditions under which the coalition of the projects develops. The policy entrepreneur acknowledges its dependence on the preferences of the directors and aldermen in power and the importance of a viable business case without high risks. However, the policy entrepreneur also acts according to his personal preferences, by aiming to establish a healthy mix between costs and a progressive ideology to fund the project.* 

Another illustration of the influence of personal factors on the coalition building strategy is that of personal experiences. The next quote stresses this factor: *"Large coalitions delay the process, it becomes harder to make progress or to schedule appointments. You need the right parties, but no more than that" (R4, 2017).* Although not explicitly stated, it seems logical to assume that this policy entrepreneur based the decision of who to include in the coalition on previous experiences with past coalitions. The close link with other contextual factors becomes evident, as the position and relation to other actors is also taken into consideration to determine the right size of the coalition, instead of solely personal experiences.

# 6.4 Discussion Personal Inclination

By illustrating how organizational- and personal objectives relate to one another and how differences therein condition general strategic behavior, a first step is made to understand how personal- and contextual factors interact within the strategy selection process. The empirical data suggest personal objectives are of great influence on general strategic behavior. This was highlighted by the example of a case in which personal goals turned out to be of greater importance than organizational goals for the strategic approach. Nevertheless, the power of other actors and the home organization also becomes evident, as this policy entrepreneur became excluded from the project. Furthermore, this research also establishes that personal factors not only determine strategic behavior directly, but also indirectly. In accordance with Brouwer (2015b) and Mintrom (2000), personal factors serve as a filter to interpret other contextual factors which altogether justify the application of a particular strategy. For the demonstration strategy, perceived reality and knowledge and skills are of importance, as for demonstrating the value of the projects on has to be able to discover the 'weaknesses' of the other party, while knowledge of the position and relation to other actors would also be required. In the case of coalition building, personal experiences in the past urged one of the policy entrepreneurs to form a concise coalition, but the position and relation to other actors was also taken into account to determine which actors should be part of the concise coalition.

As stated earlier, personal inclination is assumed to constitute several personal factors which influence the strategy selection process. In literature, perceived reality was identified as being of great importance for determining which strategies are used (Brouwer, 2015b). Furthermore, Mintrom (2000) stretched the relevance of personal experiences, while Scharpf (1997) highlighted personal preferences originating from cultural or ideological customs. The empirical data however, suggests other personal factors such as knowledge and skills, and personal objectives for the project also determine the strategy mix selection process. For the development of a more elaborated concept of personal inclination, a schematic representation has been created in Figure 7. The resulting figure illustrates that a policy entrepreneurs' personal inclination to apply a particular strategy mix consists of several personal factors, which overlap to some extent. For instance, one can argue that perceived reality serves as the ultimate determinant of personal experiences, personal preferences, personal objectives and knowledge and skills. The dotted line represents the 'fluid' nature of this perceived reality. Furthermore, some of the personal factors are strongly related. Personal preferences are likely to be based on personal experiences and vice versa, which is highlighted by using the squatted arrow to link the distinct personal factors. The goal of this figure is not to determine which personal factor is most important for the personal inclination. It merely

serves as a simple representation of the complex nature of ones' personal inclination, based on the empirical data within this research.

Figure 7: Visual representation of personal inclination

# **Personal Inclination**



# 7. Contextual Factors & Strategy Mix Selection Process

In the next chapter, the other contextual factors that are of influence on the strategy mix selection process will be addressed. By focusing on how the selection of particular strategies occurs, statements can be made about which non-personal factors are considered. Nevertheless, the intermediary function of personal inclination on the interpretation of other contextual factors will not be neglected, given its importance for the strategy selection process (Brouwer, 2015b). An attempt is made to distinguish the contextual factors that are of influence, despite the complex interaction between contextual factors within the strategy mix selection process. Therefore, the content of some contextual factors may overlap, while the listing of some contextual factors under particular categories can also be debatable. The main categories are derived from Brouwer (2015b) and constitute the following: The network environment, the specific project or policy proposal and the policy entrepreneurs' organization. The order of these categories will be maintained in the analysis.

A note before presenting the results is that some contextual factors are not as deeply grounded in the empirical data, meaning its validity can be questioned. However, to develop a comprehensive contextual framework, these contextual factors will be included in the analysis. The purpose of this section is not to merely describe which contextual factors play a role, but also to understand how they play a role. Each strategy will first be described shortly, after which the empirical evidence for that strategy is presented. Lastly, a discussion on the relationship between the empirical evidence and existing literature will be held.

# 7.1 Demonstration Strategy

Demonstrating the urgency of a problem and a potential solution, for example via the usage of facts and figures, is seen as a way to gain attention or support for a problem or a project which aims to solve the perceived issues (Brouwer, 2015b; Mintrom, 2000). The empirical data showed that many attempts have been undertaken to demonstrate the value of the projects as solutions to perceived problems, to gain attention and support within a policy entrepreneurs' own organization or among other actors involved.

# 7.1.1 The Network Environment

The next paragraphs are concerned with the identification of contextual factors of influence on the demonstration strategy that are considered to be part of the network environment. This is understood as the environment in which policy entrepreneurs strategically operate to exercise influence on the establishment process of the project or the policy proposal (Brouwer, 2015b).

#### **Position and Relation to Other Actors**

Several thematic studies and factsheets about the feasibility of decentralized water systems in Buiksloterham have been developed to demonstrate its relevance, primarily by policy entrepreneurs from Waternet. This highlights an important contextual factor which influences the choice to employ the demonstration strategy: The position and relation to other actors in the network environment (Brouwer, 2015b; De Bruijn & Ten Heuvelhof, 2008; Roberts, 1992). The role one is expected to play within the project, largely determines whether the demonstration strategy has to be employed. Given that Waternet initiated the idea of implementing decentralized water systems in Buiksloterham, they were more or less expected to demonstrate its relevance to the other actors. The following statement from respondent number 6 from the municipality exemplifies this claim: "We were not feeling responsible for conducting a thematic study about the merits of decentralized water systems, it was carried out by Waternet" (R6,2017). The importance of the position and relation to other actors for the demonstration strategy is not only about the role one is expected to play regarding the projects, but it points towards a general 'golden rule' that the position and relation to other actors is vital when aiming to seek attention or convince other actors in the network. One has to be aware of the most relevant actors involved in the project, to ensure the value of the project is demonstrated to the 'right' people. This can be illustrated by the next quote: "Demonstrating the relevance of the project is crucial when it appears cooperation with particular parties is required to establish the project, you have to influence the network of actors around you" (R3, 2017). Important here, is to also be aware of other actor's preoccupations and to strategically connect to these. Merely asserting its importance is insufficient, as is noted by the following respondent: "Urban planners are people that think in terms of concepts and systems. Simply stating that decentralized water systems are a good idea is insufficient. One has to reflect, how does this fit in their world?" (R7,2017). The above suggests that when taking the position and relation to other actors into account, personal factors also play a role, given that perceived reality and knowledge and skills also determine who is being seen as an important actor that needs to be persuaded.

#### Level of Trust

Another contextual factor within the network environment that was identified by Scharpf (1997), namely the level of trust among actors involved in the network, has not been coined frequently as being of influence on the application of the demonstration strategy. Merely one policy entrepreneur explicitly acknowledged that level of trust plays a role when convincing other actors in the network. When the relevance of the projects had to be demonstrated to the policy department from Waternet, the following was stated: *"It can help to engage in a conversation and to listen to* 

someone else's story first. For instance, one of my colleagues questioned the feasibility of the project because she thought the technology would be better applicable in rural areas, as larger reductions in costs for infrastructure could be established. However, by acknowledging the validity of her arguments, the level of trust grew that I would consider her notions. Afterwards, she became convinced that our ideas were not so different. She agreed the project in Buiksloterham could serve as a pilot to test the innovation" (R4, 2017). It seems that personal inclination also plays a role here, as personal factors seem to have played a large role for displaying the above tactics when demonstrating the relevance of the project.

## 7.1.2 Specific Project/Policy Proposal

In this section, the contextual factors that compose the specific project or policy proposal will be addressed to discover how they are of influence on the application of the demonstration strategy. Previous knowledge on the influence of particular contextual factors of the specific project is limited to the finding that policy entrepreneurs mostly demonstrate the value of the problem before the start of the project, when ideas ought to be sold Brouwer (2015b). This conclusion highlights the importance of timing as a contextual factor, which will be addressed into more detail in a later section. In addition to the contextual factors that have been previously identified in literature, various new contextual factors have been added.

## **Business Case**

The costs and benefits of the decentralized water system, or the project's business case, has proved to impact the application of the demonstration strategy in several ways. A striking example is the following: "At a certain moment, several numbers about the costs and benefits of the system were circulating within the network, none of which were based on proper research. My superiors blamed me as the responsible program manager. Naturally I started developing a comprehensive factsheet shortly thereafter, to ensure accurate numbers of the business case would circulate within the network" (R1, 2017). The example above suggests the specific business case was of great importance for the decision to develop the thematic study of the project to convince others, as the circulation of wrong numbers was perceived as a threat that had to be neutralized. The business case being taking into consideration when applying the demonstration strategy can be illustrated further by the next quote from the policy entrepreneur working for De Alliantie: "When I had to convince others internally of the relevance of the project, I was expected to link the proposal to the themes affordability, quality and accessibility. I had to prove the economic value of decentralized water systems for our future residents, which in this particular project is not very significant. The profit can mainly be found in a reduction of water use, but this is marginal in terms of money saved. I had to

convince my directors to look beyond the business case, to gain experience with these projects for the future" (R8, 2017). In the examples above, the close ties between the business case and the preferences of directors in power comes to the fore when considering the application of the demonstration strategy. This relationship will be further explored in the section of the policy entrepreneur's organization.

A last example illustrates that the conception of the business case as having an effect on the application of the demonstration strategy stretches far beyond the projects boundaries. This can be exemplified by the subsequent quote: *"The lock-in situation increases the difficulty to establish the project. We are dealing with capital-intensive infrastructure and long term investments. When altering the system, additional investments and divestments have to be done, which means the destruction of capital. For these reasons, I encountered resistance within my own organization when demonstrating the ideas for the project" (R3, 2017). The latter relates to another factor of influence for the demonstration strategy, that of organizational structures and routines. This will also be addressed into more detail in the section on the policy entrepreneur's organization.* 

Previous literature does not explicitly acknowledge the business case as being of influence on the strategy mix selection process. A possible explanation is the difference in focus, as this research is mainly concerned with projects rather than policy. It seems plausible that the business case is of greater importance for projects than for policy, as projects are usually more specific than policy, which increases the likelihood that concrete calculations can be taken into account.

#### **Added Societal Value**

As became clear from the paragraph on the business case, arguments from policy entrepreneurs to demonstrate the value of the project were not only benefits in monetary terms. Gaining experience with the establishment of decentralized water systems and environmental gains such as the reclaiming of nutrients from wastewater or a decrease in water usage were also used to demonstrate the value of the project. This contextual factor is referred to as the 'added societal value' of the project. Despite earlier intentions that were based on maximizing these advantages, an extensive application of new features of decentralized water systems that would make this possible has not occurred. Nevertheless, the added societal value remains an important factor when demonstrating the value of the project: *"I do not think it is more challenging to convince others because of the adjusted ambitions regarding the projects. Although we know it is not perfect, we are convinced the concept of decentralized water systems and its advantages for our society remain evident to everyone" (R4, 2017).* 

widely accepted among actors involved, it should be acknowledged that personal factors such as personal experiences and perceived reality are probably partially responsible for this verdict. Every person assesses added societal value of the project differently, but this does not mean added societal value is not taken into account when aiming to demonstrate the value of the project.

## **Existing Policy and Legislation**

Existing policy and legislation had a severe impact on the establishment process of decentralized water systems in Buiksloterham, which increased the need to convince other actors by means of applying the demonstration strategy. The following quote from the policy entrepreneur from De Alliantie illustrates this: *"It would have been easier if Waternet could have just told us, look, we have a different sewage system, so a vacuum toilet is required for your project. Then we would have simply taken it into account in advance. But because this is a pilot project, the law could not enforce us to implement the different sewage system. We had to do it out of free will. We would have preferred enforcement, because it would have been easier to 'sell' the project within my organization" (R8, 2017).* 

Another example of how current policy and legislation impacted the demonstration strategy is that one of the policy entrepreneurs from Waternet was well aware of the fact that existing policy was highly conventional and focused at minimizing risks. This increased the necessity to develop facts and figures about the feasibility of the project, in order to convince Waternet's policy department to alter its policy. The following passages highlight this: *"Using the thematic study on decentralized water systems to influence the policy department from Waternet is crucial, as the ideas and plans of the policy department are generally highly traditional" (R1,2017). In this particular case, the above suggests existing policy and legislation is connected to organizational structures and routines as well, while perceived reality is also of influence on the conceiving of policy as traditional. A combination of these factors conditioned this particular application of the demonstration strategy.* 

## **Project Size and Scope**

Due to the fact that the projects were only implemented in a limited part of Buiksloterham, instead of the entire neighborhood, it turned out to be easier to convince other about the relevance and feasibility of the project. In other words, the project's size and scope had an impact on the application of the demonstration strategy. The next quote from a policy entrepreneur from the municipality illustrates this: *"The fact that it was only an experiment helped a lot. If you would have implemented it in the entire neighborhood, it would have taken much more to convince others" (R6, 2017)*.

# 7.1.3 Policy Entrepreneur's Organization

Some of the contextual factors which are classified as being part of a policy entrepreneur's organization have already been briefly mentioned in previous paragraphs. In this section, these contextual factors will be investigated into more detail. Mintrom (2000) argues that the type, culture and financial resources of the organization influence the strategy selection process. Furthermore, the organizational structures and routines are also believed to have an impact on the strategies that are applied (Currie et al., 2008). Another factor of importance on the strategy selection process is the freedom within a policy entrepreneur's organization to make independent decisions to employ strategic actions (Brouwer, 2015b). In this research, the above-mentioned categories will be united under the name of organizational structures and routines, given the high degree of overlap. Lastly, the preferences of directors or aldermen in power require a separate category, as previous literature explicitly highlighted the importance of the restrictions that directors or superiors within an organization can pose on the strategy selection process (Snare, 1995).

### **Organizational Structures and Routines**

Organizational structures and routines of the policy entrepreneurs' organization play a role when one decides to demonstrate the relevance of the project. Common practices are deeply embedded in the ways in which one approaches new projects. This can be illustrated by the subsequent quote: "That is when we came up with the thematic study 'New Sanitation'. It is a common practice within Waternet, but I assume in the municipality of Amsterdam as well. It is about transforming policy into operational application, in which you investigate a theme, after which the results are presented to others in- and outside the organization" (R1, 2017). Apart from standard operational practices, the organizational structures and routines also influence the application of the demonstration strategy on a more fundamental level. Though generally determined, policy entrepreneurs sometimes seem to be discouraged to demonstrate new projects and ideas. The organization's main line of work, which can be seen as part of the organizational structures and routines, was found to be extremely relevant: "As Waternet, we are primarily responsible for maintenance of the water system, not for innovative ideas. This means that innovative ideas are perceived as a disturbance by a large part of the organization. Waternet is divided into several departments. Decentralized water systems require an approach that stretches beyond those clearly delineated boundaries. In practice, it rarely occurs that these boundaries are breached successfully" (R1, 2017). The passage above clearly suggests that policy entrepreneurs take the organizational structures and routines in account when considering the demonstration of new projects or policies.

A last example highlights the importance of an organization's culture and the degree of freedom to learn from mistakes. The ease at which innovative ideas are negatively assessed, is believed to originate from the organizational culture. This could influence the urge to demonstrate new ideas. The following quote from a policy entrepreneur employed by the municipality illustrates this: *"I want to stress that limited space exists for the establishment of pilot projects within our organization, such as the one in Buiksloterham. New ideas are easily rejected and discarded. I wish there was more room to learn from mistakes" (R6, 2017). Despite the apparent valid examples, it is worthy to note that the perceived reality is likely to be of great influence on the conception of the impact of organizational structures and routines on the demonstration strategy. It seems logical after all that some people might feel more restricted by their organizational structures and routines then others.* 

## **Preferences of Directors and Aldermen in Power**

Though related to the organizational structures and routines of a policy entrepreneurs' organization, it is worthwhile to explicitly mention the preferences of directors and aldermen in power when analyzing the contextual factors that influence the application of the demonstration strategy. Reconsidering earlier quotes from the paragraphs on the business case, it was a director that urged the program manager to develop a factsheet about the projects' costs and benefits, which in turn could be used to convince others actors within the own organization and the broader network. Furthermore, the next quote also highlights the importance of the preferences of superiors regarding the demonstration of the value of the project: "I managed to get approval at the highest level for my ideas within Waternet. Establishing broad support from your superiors is essential for the project. It is a major step towards influencing policy" (R1, 2017). A last example of the influence of the preferences of directors and aldermen in power illustrates the importance of their leadership. One of the policy entrepreneurs from Waternet explicitly acknowledged that his director inspired him for maintaining belief that the project could contribute to the transition to a circular economy. When the feasibility of the project was questioned, the director's vision served as an inspiration, which was helpful when employing the demonstration strategy. This was ventilated in the following passage: "We have a director with a clear vision on the role of water in the transition to a circular economy. This image has always been my point of reference from which I knew: As long as I stay within this framework, I know I am on the right pathway" (R3. 2017).

#### **Time and Timing**

Before positioning the empirical evidence within previous literature by means of a discussion, it is worthy to note that the last identified contextual factor, that of time or timing, poses some

challenges on the categorization in the contextual framework, as it adds a different dimension to all of the other contextual factors. Regarding the demonstration strategy, timing can affect the composition of actors within the network, as the empirical data suggested that people and actors involved come and go, which indicates that the demonstration strategy has to be applied when newcomers arrive. Timing also affects the relevance of existing policy and legislation. For example, recent adaptations regarding the utilization of reclaimed phosphate from wastewater, have increased the feasibility of decentralized water systems, which is likely to affect the demonstration strategy (Ministerie van Infrastructuur en Milieu, 2015). One can argue that similar to timing as a meta strategy, timing can also serve as a contextual factor at the meta level. At a specific moment in time when a strategy is applied, certain contextual factors might be relatively stable. However, it seems logical to assume that the exact shape and degree of influence from these contextual factors evolves over time.

With timing in the context of the demonstration strategy, the 'feeling' for the right moment is meant, which can depend on changing circumstances in time which make it more or less feasible to demonstrate the relevance of a project. A policy entrepreneur from Waternet became aware of the circular ambitions in Buiksloterham in early 2013, after which others within the organization had to be convinced quickly to leave the possibility for collaboration open. The following quote illustrates this: "After I heard of the circular ambitions in Buiksloterham, I organized a fieldtrip with my colleagues. We had some conversations with 'city makers' to obtain information about the interesting activities which were taking place within the neighborhood. It was essential to do this as early as possible. As by doing so, I created momentum for Waternet to realize that this is an interesting area to experiment with decentralized water systems" (R2, 2017). Another example of the importance of timing when employing the demonstration strategy is the next quote: "We were lucky that the circular ambitions in Buiksloterham arose during the crisis. It was the perfect moment to give a presentation about the possibilities for Waternet in the area, as a crisis is an excellent time to innovate" (R5, 2017).

## 7.1.4 Discussion Demonstration Strategy: Contextual Factors

Given the absence of an extensive theoretical framework about the ways in which contextual factors influence the selection of particular strategies and the fact that this research is primarily inductively established, the discussion is mostly focused on developing arguments for the expansion of existing knowledge by elaborating on the contextual factors of influence. Nevertheless, a debate on the influence of contextual factors on the more general strategy selection process remains possible. In addition to the initial contextual framework, several supplementary contextual factors have been

identified. An overview of these contextual factors is presented in Table 3. The number of times a particular contextual factor explicitly came to the fore in the interviews is also given, which can serve as an indication for the importance of a contextual factor on the decision to choose for the demonstration strategy. One has to draw conclusions carefully, as it is likely that some respondents found it hard to recognize particular contextual factors of influence, most notably the personal factors. Moreover, this research found that it is highly challenging to deconstruct motivations for strategy selection to single categories of influence. As stated previously, it is often the case that personal factors, such as perceived reality or personal preferences, serve as an intermediary for the interpretation of other contextual factors.

#### **Network Environment**

Elaborating upon previous studies, this research establishes that the network environment is not only important for the general strategy selection process, but also of great importance for the selection of the demonstration strategy (Brouwer, 2015b; De Bruijn & Ten Heuvelhof, 2008; Roberts, 1992). More specifically, the position and relation to other actors in the network and the roles each actor is expected to play, largely determines whether one demonstrates the value of the project in the pursuit of attention or support. Level of trust as another contextual factor from the network environment is not named frequently as conditioning the application of the demonstration strategy. This in contrast to the findings of Scharpf (1997), who argued that trust is important for the general strategy selection process. An explanation might be that the level of trust is less important for the demonstration strategy than for the general strategy selection process. Other strategies such as coalition building and issue linking are likely to require more trust than merely attempting to demonstrate the value of an idea to others in the network.

#### **Specific Project/Policy Proposal**

The contextual factors that can be assigned to the specific project or policy proposal also play a considerable role when employing the demonstration strategy. The seeming importance of the business case is striking, especially due to the fact that previous literature has not identified this factor yet. However, it must be mentioned that this study is more focused on projects than policy, which could explain the difference in the importance of the business case. Nevertheless, it should be said that the 'business case' of a policy proposal, or the costs and benefits of implementing the policy proposal, also seem a valid contextual factor that could condition the demonstration strategy.

Because this research focusses on decentralized water systems that aim to contribute a more sustainable- and circular economy, the added societal value seems a logical contextual factor that

influences the demonstration strategy, as the added societal value can be used to enforce claims. Despite of the plunged ambitions with the limited application of possible features, the added societal value of the project and the concept remains clear to all actors involved. Thus, within the context of this research, the added societal value continues to be a factor of influence on the demonstration strategy.

Another contextual factor from the specific project, the existing legislation and policy, also proves to be of influence. Because the project was a pilot, the application of the vacuum system could not be enforced by law, which increased the necessity to demonstrate the relevance of the project to others within the own organization. Furthermore, the conventionality of existing policy, urged policy entrepreneurs to develop facts and figures about decentralized water systems in order to demonstrate its relevance, to eventually be able to establish the desired policy change. It turned out that the salient nature of the project clashed with existing policy and legislation, as no room for decentralized water systems was present in existing policy. It can thus be concluded that existing policy and legislation are taken into account when applying the demonstration strategy. Similar to McCown (2004), the saliency of the project also plays a role in this respect. Lastly, in line with Brouwer (2015b), the limited size of the project was believed to have led to relatively little opposition when other actors had to be convinced. It can thus be concluded that a project's size is also taken into account when aiming to demonstrate the relevance of a project in search for attention or support. The feasibility of a pilot project is considerably easier to demonstrate.

#### **Policy Entrepreneur's Organization**

Several contextual factors from a policy entrepreneur's organization also prove to be of effect on the application of the demonstration strategy. The decision to develop a thematic study turned out to be a highly conventional practice within Waternet, which can be considered part of the organizational structures and routines (Currie et al., 2008). Moreover, the activities of Waternet mainly being centered around maintenance also influenced the application of the demonstration strategy, as the majority of the organization perceived the establishment of decentralized water systems as a disturbance. The respondents suggested that this increased the difficulty to persuade others to support the project. This finding can be coupled to Mintrom (2000), who stretched the importance of the 'culture' of the organization. Furthermore, the freedom to make independent decisions was coined by Brouwer (2015b), but no obvious notions about this factor come to the fore in the empirical data. It is likely that respondents perceive this factor as more closely connected to the general organizational structures and routines. Insufficient freedom to make mistakes is mentioned, but this is more closely related to the culture of the organization. Lastly, in accordance

with Snare (1995), the preferences of directors and aldermen in power are of great importance for the demonstration strategy. Having support from superiors serves as leverage for convincing others about the projects, while it also leads to maintaining belief in the feasibility of the proposed plans.

### **Time and Timing**

A note should be made on the role of timing for the strategy selection process. This study argues that timing as a contextual factor at the meta level, serves as the 'glue' between each of the distinguished contextual factors. The above conclusions about which contextual factors play a role in a particular application of the demonstration strategy, have all shown to be bound by the specific composition of these contextual factors in time. It can therefore be considered as a crucial factor that functions at the meta level, both relevant for the demonstration strategy in particular, as for the general strategy selection process. Furthermore, the relatedness between personal inclination and the other contextual factors became evident, especially the way in which perception guides the assessment of the influence of other contextual factors on the application of the demonstration strategy.

A last concluding remark about the demonstration strategy is in contrast with Brouwer (2015b). In his work, it is stated that the demonstration strategy should be applied at the beginning of the project when ideas ought to be sold. This research argues that demonstrating the value of the project remains vital throughout the entire establishment process. The establishment process can take many years, with the arrival and departure of many actors and individuals involved in the projects. Furthermore, potential drawbacks can also lead to doubts within the coalition about the feasibility of the project. Following these arguments, it can be stated that the continuous application of the demonstration strategy is a prerequisite for successful establishment of the projects. In the next sections, more attention will be given to these dynamics, as the next strategy under study is that of coalition building.

Contextual factors	Number of times grounded in citations
Specific project/policy proposal	
Business Case	15
Added Societal Value	9
Project Size/Scope	3
Existing Policy and Legislation	3
Network environment	
Position and Relation to Other Actors	8

Table 3: Overview of contextual factors of influence on the application of the demonstration strategy

Level of Trust	1				
Policy entrepreneurs' organization					
Organizational Structures and Routines	10				
Preferences of Managers and Aldermen	7				
in Power					
Personal inclination					
Perceived Reality	2				
Personal Experiences	2				
Knowledge and Skills	1				
Personal Preferences	1				
Personal Objectives	1				
Time and Timing	3				

# 7.2 Coalition Building

When policy is established by more than a single party, coalition building is seen as inevitable (Brouwer, 2015b; Koppenjan & Klijn, 2004). It is argued that actors, let alone individuals, are highly dependent on the (financial) resources of other organizations and individuals that are linked to the specific policy problem. It can therefore be assumed that in the context of this research, the policy entrepreneurs involved did not consider whether to build a coalition, but rather what size and composition would be most supportive in their quest for the establishment of the project. The next sections are concerned with the identification of contextual factors from the network environment that have determined the size and composition of the coalition for the realization of the projects.

# 7.2.1 The Network Environment

# **Position and Relation to Other Actors**

In accordance with Brouwer (2015b) and Koppenjan & Klijn (2004), this research also stresses the importance of coalition building, as it became evident that policy entrepreneurs could impossibly establish the projects without other partners. The next quote illustrates this: *"The permits, the streets, responsibility, but also knowledge and capacities. When building a coalition, you mainly look for what you do not possess yourself. Who can exploit and maintain the decentralized water system? Or make the design? One could argue that De Alliantie as a housing corporation would be able to do it independently, as a large part of their project is situated on private land. But when they discover that the pipeline has to be built below a public street, the municipality becomes involved. Those project dynamics lead to involvement of many other parties" (R2, 2017). Forming the coalition in such a way that sufficient knowledge is incorporated, points to the importance of the position and* 

relation to other actors, as different parties with distinct assets were required. Moreover, the above also suggests that in this specific case, policy entrepreneurs did not have much freedom to decide who would become part of the coalition, as the actors automatically became involved. This factor increases the difficulty to exercise influence on the size and composition of the project's coalition. More so, because the danger of a too broad coalition is luring when the number of partners cannot be chosen freely. Policy entrepreneurs generally agreed that a broad coalition would have increased the complexity of the project. The following highlights this: *"The more actors and partners are involved, the more complex the cooperation process becomes" (R1, 2017)*. Another policy entrepreneur more specifically described what the complexity of broad coalitions entails: *"Broad coalitions only decelerate progress. You have to cope with multiple agendas, as many opinions have to be taken into account" (R4, 2017)*.

Instead of a predetermined size, the decision who should be included in the coalition, was largely based on whether cooperation of an actor was essential for establishment of the project. Having a stake and responsibility in the establishment process was seen as a prerequisite by most of the policy entrepreneurs. The next passage exemplifies this: "I aimed to involve every party in the coalition that had a presence and responsibility in the area that could affect the project. Some groups or organizations clearly did not fit this description. I consider them free-riders, who mostly cause trouble and slow down progress" (R3, 2017). A strategy for excluding these free-riders, was to organize coalitions at different levels. It seemed as if in the case of Buiksloterham, two coalitions existed. First, the main coalition, or what one might call the 'institutional coalition', consisted of the 'big boys', namely Waternet, De Alliantie and the municipality of Amsterdam. The next quote illustrates the importance of cooperating with these three parties: "For me it is mainly about making progress. In order to do so, it is mostly important to include the different departments from the municipality which have institutional responsibility, such as Land Development (G&O) and Space and Sustainability (R&D)" (R1, 2017). The other non-institutional actors were more or less involved, but not in the inner circle. As a consequence, these actors had less influence over the establishment process. The following exemplifies this: "Because the project was already highly complex, we aimed to limit the main coalition to three parties. The Buiksloterham community and other signatories of the manifest were informed, but not involved as such" (R3, 2017). The situation as described might suggest that this was a logical construction. However, one of the policy entrepreneurs also viewed this as a challenge. The next quote illustrates this: "Everyone is searching for the right way to cooperate. Buiklsloterham was initiated as a 'cooperative city lab', where a community exists that aims to organize circular project developments. We have a joint mandate to organize this process.

However, this mandate does not lead to the desired collective action. The community is no institutional player, as they have no decision-making power. But at the same time, they are a binding force to realize the circular ambitions. This is a significant challenge" (R2, 2017).

## Level of Trust

During the course of the project, the belief among the actors involved that the project would succeed reached a critical point. However, merely withdrawing from the coalition was not an option, as the institutional actors were more or less obliged to remain involved due to the organizations' legal responsibilities and the previously signed manifest. Moreover, the subsidy which was obtained also served as a unique opportunity for experimentation. From the interviews, it became clear that the municipality in particular was discontent with the progress of the project. The project manager from Waternet at the time was seen as the culprit, as clear goals and boundaries were perceived to absent as a result of the chosen 'network approach'. It was assumed that a new project manager was required, one who had the ability to clearly define the aims and scope of the project. The next quote from the assigned successor portrays how the level of trust among actors played a role in this respect: "At a certain point, the municipality was very discontent, a negative atmosphere was present during the meetings. The belief that the project would succeed had sunk to the lowest possible point. That was the moment I became the new project manager. The municipality thought it would not work with my predecessor. I had to intervene by ensuring the project became manageable. To restore faith and trust that we would succeed together". (R1, 2017). From the above it can be derived that when considering coalition building, the level of trust was more related to individuals than organizations. The personal preferences of the initial project manager for a network-oriented approach, instead of a project-oriented approach, resulted in lower levels of trust within the coalition. Also here, personal factors come to the fore, as the perception from project managers from the other actors played a role in their judgement of the situation.

## 7.2.2 Specific Project/Policy Proposal

### **Business Case**

As part of the specific project or policy proposal, the project's business case has proven to condition the coalition building process in several ways. Especially De Alliantie, which was not primarily focussed on experimenting with decentralized wastewater treatment, urged the importance of the business case for their support of the coalition: *"We really wanted to cooperate with Waternet and the municipality to achieve their circular ambitions, but the three pillars, affordability, availability and accessibility remained are guiding principles for the projects. We are unable to invest millions on* 

top of our regular investments. We told them that we are willing to cooperate, but that we wanted cost neutrality" (R8, 2008). Reaching common grounds on this respect was seen as a major challenge for the coalition. This can be illustrated by the following quote from a policy entrepreneur from Waternet: "It first requires investments before benefits arise, but it was hard because we had to do it together. We had to be able to look beyond each other's annual budgets. The split incentive made it more complex, that costs and benefits would be unevenly and distributed" (R3, 2017). As stated before, the subsidy would serve as an important compensation to reach common grounds, as the benefits of the projects would mostly lie in gaining experience, rather than gains in financial terms. Given the primary aims of De Alliantie, this turned out to be a crucial factor to join the coalition.

Another example of how the subsidy and the related business case of the project influenced the composition of the coalition, was that several other parties besides the initial projects Schoonschip and Buiksloterham&co, were not allowed to connect to the resource station. This was partially a result of limiting the project's scope and focus, to ensure the project remained manageable, but also due to the limited amount of resources that could be drawn from the subsidy. The next quote highlights this: *"It was important to focus on our two initial partners, Schoonschip and Buiksloterham&co. Another initiative, 'Kavel 20', wanted to join as well, but we had to exclude them. This decision was based on the fact that the resources from the subsidy were exhausted, while manageability of the projects was also taken into account. We had to make progress" (R1, 2017). The fact that the decision was not purely based on the business case can be motivated by the following statement from one of the policy entrepreneurs: <i>"For the efficiency of the system we should have connected as many projects as possible. However, after the evaluation in 2020, they can still become connected" (R5, 2017).* 

## **Project Size and Scope**

In the paragraphs about the position and relation to other actors and the business case, it already came to the fore that the project size and scope were of influence on the size and composition of the coalition. One policy entrepreneur made a clear distinction between projects and platforms in this respect: *"A project like Buiksloterham with a clear aim and scope or a product, requires something different than a platform or a movement. When something concrete needs to be achieved, the less the better." (R2, 2017).* All policy entrepreneurs from the institutional players widely acknowledged this. One example is the following quote: *"It was crucial to remain focused, to keep it simple. That meant limiting the number of players in the coalition. That is hard, because everyone wants to be part of the <i>'sustainability wave' (R6, 2017).* The above answers also suggest

that personal inclination, via perceived reality and personal experiences, also played a role to limit the coalition to the preferred size and composition.

## 7.2.3 Policy Entrepreneur's Organization

#### **Organizational Structures and Routines**

The coalition of Waternet, De Alliantie and the municipality suffered from different objectives and ideas about the correct approach to establish the projects, which would influence the size of the coalition. Under supervision of the initial project manager from Waternet, a network-approach was preferred over a project-oriented approach, while both the municipality and De Alliantie preferred the latter. As a result, the level of trust dropped significantly, which threatened the coalition. Although it was assumed that mainly personal factors played a role, organizational structures and routines were also perceived of influence. The following quote from a policy entrepreneur from the municipality illustrates these differences: "We are a project organization and aim to develop concrete plans, budgets, results and risks. A clear beginning and end is aimed for. (...) The culture from Waternet seems to be different. A hazy cloud, people appear to be involved, but then they are suddenly not responsible anymore. We intervened by urging them to alter their project organization, otherwise we would not be able to cooperate. Clear project partners and boundaries had to be developed, which led to the decision to only connect Buiksloterham&co and Schoonschip to the resource station. Waternet eventually agreed" (R7, 2017). Although the above clearly suggests the influence of organizational structures and routines on the coalition, it must be noted that perceived reality also played a major role, as this factor was only mentioned by one policy entrepreneur explicitly.

## Preferences of Managers and Aldermen in Power

Although it was stated earlier that the responsibilities of the public-sector organizations, the signing of the manifest and the unique opportunity of the subsidy incentivized the coalition to establish the project, institutional involvement at the higher level also enforced the municipality to jointly establish the decentralized water systems in Buiksloterham. When one of the policy entrepreneurs from Waternet realized that Land Development (G&O) and De Alliantie were reluctant to assign a location for the resource station, support was sought for at a higher organizational level. The next statement exemplifies this: *"Eventually a decision from above was required to ensure the Land Development department from the municipality would find a location for the resource station. Otherwise the project would probably not be established. One of our directors urged the alderman from Land Development to order that the assignment would be executed by the department. The experiment had to be established in Buiksloterham" (R3, 2017). The example illustrates that the* 

preferences of managers and alderman in power have proven to be of influence, as the coalition could not be formed without the clear executive order from the Alderman.

#### **Time and Timing**

Related to the above category of the preferences of managers and aldermen in power, the importance of timing for the size and composition of the coalitions also came to the fore in the following example: "One of the things I learned from the projects, was to involve people from higher levels of the organization at an earlier stage. At a certain moment, negotiating among coalition partners at this level was vital for the project. I should have arranged this earlier on" (R1, 2017). The above suggests that choosing the 'right' time to involve the 'right' people is vital. However, timing is also taken into account when excluding parties from the coalition. Apart from Kavel 20, housing corporation 'Eigenhaard' also wanted to join the coalition, as they were developing a new housing project in Buiksloterham as well. Nevertheless, they could not join the coalition, as the following statement from one of the policy entrepreneurs illustrates: "Cooperation with Eigenhaard was impossible, as they were way ahead in their project development plans. They could not incorporate vacuum sewage pipelines in their project design anymore" R4, 2017). From this example, it can be concluded that timing also served as a meta contextual factor that influenced the size and composition of the coalition. Schoonschip and Buiksloterham&co were first to show interest in the possibilities for decentralized water systems, which eventually resulted in limiting cooperation to these initial partners. Furthermore, in a more generic sense, time was also taken into account by the policy entrepreneurs in their judgement to limit the amount of coalition partners to a minimum, as it would delay the establishment process.

## 7.2.4 Discussion Coalition Building: Contextual Factors

As expected and in line with Brouwer (2015b) and Koppenjan & Klijn (2004), the empirical data in this research also suggest that the building of coalitions is inevitable when decision-making is in the hands of multiple actors. Therefore, the primary contribution of this section is to discuss how the identified contextual factors that are of influence on the size and composition of the coalition relate to previous literature. An overview of the identified contextual factors is given in Table 4. Once again it should be noted that the figures on the table should merely serve as an indication, instead of 'hard facts' on the importance of particular contextual factors. It only entails the contextual factors which were named explicitly. This potentially explains again why the number of times that personal factors came to the fore is relatively low, as respondents might not be fully aware of the intermediary function of personal factors for the interpretation of other contextual factors in the strategy

selection process. In the results section, some suggestions were already made in which examples personal factors could have implicitly played a role.

#### **Network Environment**

Empirical data related to the network environment suggests that the position and relation to other actors was taken into account when the coalition was established. This observation is based on the finding that policy entrepreneurs were well aware of the importance of incorporating the institutional players with decision-making power to make progress. As suggested by De Bruijn & Ten Heuvelhof (2008) and McCown (2004), the importance of increasing the legitimacy of the project and resource dependency thus comes to fore. Moreover, a lack of decision-making power also served as a simple way to justify the exclusion of non-institutional players, as they were deliberately kept away from the main meetings. However, it was also acknowledged by one policy entrepreneur that they did have influence over the realization of the circular ambitions within the neighborhood, which challenged the legitimacy of the narrow coalition of the 'big three'. The latter also demonstrates the importance of perceived reality, as one policy entrepreneur seemingly experienced the absence of non-institutional players as part of the main coalition as less challenging than another policy entrepreneur, who remained alert for potential free-riders.

Similar to the findings of Scharpf (1997), the level of trust also influenced the composition of the coalition. At a certain point, faith in successful establishment had dropped significantly. Interventions had to be made, as the municipality was unwilling to cooperate if Waternet would not adopt a more project-oriented approach. Linked to this, is the importance of the attitude of other actors towards the project, which is placed under category of position and relation to other actors (McCown, 2004; Roberts, 1992). The attitude from the municipality suggests that the establishment process of the projects would have been deliberately hindered at the least, if no measures would be undertaken by Waternet.

### Specific Project/Policy Proposal

In line with the demonstration strategy, contextual factors from the specific project or policy proposal also prove to influence the policy entrepreneur's decision to form a coalition. Especially for the policy entrepreneur from De Alliantie, the business case was a major determinant for joining the coalition, as cost neutrality served as a precondition for cooperation. Due to the subsidy, this desire could be fulfilled. Simultaneously, other parties that aimed to participate, were excluded because the resources from the subsidy were already exhausted, while the project size also had to be limited

to ensure the project would remain manageable. The above relates to the suggestion that the project size is indeed an important consideration when a coalition is established (Brouwer, 2015b). In relative accordance with McCown (2004), who argued that the salience of the policy or project leads to carefully weigh the size and composition of the coalition, a small coalition was thought to increase the likelihood of successful establishment of the projects.

#### **Policy Entrepreneur's Organization**

Drawing from Mintrom (2000) and Currie et al. (2008), this research found some indications that the organizational culture, structures and routines also partially influence the composition of the coalition. This was ventilated in a statement from one of the policy entrepreneurs that perceived Waternet as an organization which preferred a network oriented approach, which implies a large coalition. However, personal preferences from the initial project manager from Waternet and perceived reality seemed to have played a major role here. This suggests additional research on this particular matter is required, before reliable statements can be made. The influence of the preferences of directors and aldermen in power also comes to the fore as impacting the size and composition of the coalition. This finding seems more reliable, as multiple policy entrepreneurs mentioned the event in which the alderman in power urged the department of Land Development to support the coalition, by finding a location for the resource station. Both Snare (1995) and Brouwer (2015b) highlight the importance of this contextual factor.

#### **Time and Timing**

Also for the coalition building strategy, time or timing serves as a crucial contextual factor for determining the size and composition of the coalition. Elevating the negotiation process among coalition partners to the highest level should have been done at an earlier stage, as was admitted by one of the policy entrepreneurs. Furthermore, at a certain point in time, additional coalition partners were excluded, as it would slow down the establishment process. This suggests that it is not only important to 'involve the right people at the right time', as argued by Taylor et al. (2011), but also to exclude actors at the 'right' time, for the sake of focus and progress. Lastly, some potential coalition partners already proved too far ahead in the development process of their project, which made cooperation impossible.

Despite that it can be concluded that the network environment, the specific project, the policy entrepreneur's organization and timing have proven to be important contextual factors determining the size and composition of the coalition, personal preferences, personal experiences and perceived reality have also played a significant role. Most evident in this respect are the diverging perceptions

of policy entrepreneurs on the 'right' project size and amount of coalition partners. One policy entrepreneur in particular, opted for a network-approach, with a wide scope and broad coalition. Other policy entrepreneurs argued that this approach to the project's coalition was highly unfeasible. These finding are strongly related to those of Scharpf (1997), who suggested that personal preference play a large role in the strategy selection process.

Contextual factors	Number of times grounded in citations
Specific project/policy proposal	0
Business Case	19
Project Size/Scope	8
Network environment	
Position and Relation to Other Actors	25
Level of Trust	5
Policy entrepreneurs' organization	
Organizational Structures and Routines	8
Preferences of Managers and Aldermen	7
in Power	
Personal inclination	
Perceived Reality	1
Personal Experiences	2
Personal Preferences	1
Time and Timing	4

#### Table 4: Overview of contextual factors of influence on the size and composition of the coalition

# 8. Contribution to Transition

The last section of this empirical chapter addresses the question of how policy entrepreneurs that have been involved in the projects in Buiksloterham perceive their contribution to the transition towards a hybrid water system in Amsterdam. By investigating the relationship between the projects and policy change, one assumes that the establishment of the projects could lead to policy change, which can indicate a potential transition. It is acknowledged that a transition requires more fundamental changes in the socio-technical regime, than merely the successful establishment of what can be considered a niche technology at the neighborhood level (Grin et al., 2010; Kemp et al., 2001; Schot et al., 1994). Even policy change, which has been coined as a crucial aspect of transitions by Meijerink & Huitema (2010), would be insufficient to be able to speak of a transition, as many other landscape factors are hardly affected by the incorporation of niche technologies or policy change (Geels, 2002). Rather, it is assessed whether we can speak of a transition in motion. It could be that the projects under study have had an impact on the development of future projects that implement decentralized water systems in the city of Amsterdam. This is evaluated through the perception of the policy entrepreneurs, who are likely to be most aware of these developments. In addition, the perception of policy entrepreneurs on recent policy changes is also used to investigate whether the first 'cracks' in the regime can be observed and to discover to what extent policy entrepreneurs can be held responsible.

# 8.1 Relationship Between Projects and Policy

Although the term 'entrepreneurial policy change strategies' suggest that the strategies are merely applied to change policy instead of establishing a project, this research underlined the close relationship between projects and policy. In line with Kingdon (1984), the general notion of the policy entrepreneurs was that policy develops gradually and requires years of preparation. In other words, the problem stream, the policy stream and the political stream have to be aligned in order for policy to change. The opening of a policy window is a rare event, in which timing is crucial to allow for exploitation (Brouwer, 2015b). In the projects under study, a similar process was experienced and rapid action was required. Nevertheless, the following example suggests that policy change processes do not always follow a clear pathway: *"Waternet recently changed its policy on decentralized water systems in the municipal sewage plan. It normally requires 5 years of preparation and another 20 to 30 years to practically implement it. However, regarding the trajectory of Buiksloterham the process was reversed, as implementation occurred before policy was adapted. A unique opportunity for experimentation showed up, which required fast action. I knew that If this would work, policy would follow afterwards" (<i>R5, 2017*). In this example, it became clear

that policy entrepreneurs were well aware that a proof of concept in Amsterdam could result in the alteration of municipal policy. The successful establishment of the project was believed to contribute to the alignment of the problem stream, the policy stream and the political stream, which would eventually result in policy change.

Another example of how the projects had an impact on policy change processes, is derived from correspondence with a policy entrepreneur employed by the department of Land Development from the municipality (G&O). It resembles the dynamics of the advocacy coalition framework, as described by Sabatier (1988). The 'web' or policy subsystem in which a wide variety of actors battle for the dominant framing of policy ideas, comes to the fore. The following was stated: "We started in Buiksloterham with the principles of a circular economy after signing a manifest with other actors involved. Naturally this manifest included distinct ambitions for decentralized wastewater treatment. Shortly thereafter, the department of Space and Sustainability from the municipality (R&D), initiated the development of policy about the circular economy. We certainly influenced them, as they could make use of our experiences in the field. It was an interplay. When we experienced legislative barriers, we urged them to adapt policy. This did not always happen, as they also maintained their own ideas" (R6, 2017). Though distinct ideas were present regarding the desired content of policy and legislation for the circular economy, each of the actors involved primarily acted according to a shared belief system. The coalition that had been formed to develop the policy proposal was 'glued' together via the shared belief in the principles of the circular economy. It became clear that a dominant policy idea was definitely present, which conditioned the framing of policy ideas.

Lastly, another policy entrepreneur also acknowledged the relatedness between policy and the projects, as it defined the boundaries of the possibilities. However, most relevant was that policy and legislation were not perceived as major barriers for establishing the projects, in contrast to the policy entrepreneur in the previous paragraph. These different perceptions on the influence of policy and legislation once again illustrate the importance of perceived reality as an explanation for the strategic actions that are undertaken. The next quote illustrates this different view: *"Policy and legislation certainly play a role in the projects, but it should not be overestimated. In my opinion, current policy and legislation of wastewater treatment provide sufficient room for exceptions. However, it requires knowledge and entrepreneurial skills to exploit these loopholes" (R3, 2017).* The latter suggests that not every individual is capable of strategically operating under the above circumstances. It stresses the role of policy entrepreneurs as highly-skilled actors that can strategically maneuver within existing policy and legislation to contribute to niche development. In
the next paragraphs, the relative contribution of policy entrepreneurs within the context of this research is addressed.

## 8.2 Perception of Contribution to Transition

Although it is recognized that policy change is driven by many other factors, the possibility for individuals to 'steer' policy change processes has been acknowledged in literature (Brouwer, 2015b; Meijerink & Huitema, 2009). As highly-skilled and 'adventurous bureaucrats', policy entrepreneurs were considered to be the designated individuals to bring about policy change (Brouwer, 2015b). Given the lack of agreement on a universal definition of policy change, in line with Howlett & Cashore (2009) and Brouwer (2015b), policy change is defined as 'the degree to which innovative ideas and policy plans differ from contemporary ones', as perceived by policy entrepreneurs.

As came to the fore in earlier sections, Waternet recently adapted its policy by including guidelines regarding the implementation of decentralized wastewater treatment in the development of greenfield areas (Waternet, 2016a). At the city-level, the municipality based its policy for the circular economy on earlier experiences in the projects in Buiksloterham, given that reclaiming nutrients from wastewater streams via decentralized treatment can be considered an important part of the circular ambitions. The question remains to what extent these 'cracks' in the regime can be assigned to the strategic actions of the policy entrepreneurs in this study. It is acknowledged that using the perception of policy entrepreneurs themselves to answer this question is debatable, given that it seems possible that one could overestimate ones' role. However, from the interviews, the contrary proved to be the case: Almost all policy entrepreneurs were modest about their role in the establishment of policy change and the wider transition. Nevertheless, all policy entrepreneurs acknowledged to have had an impact on the project- and policy outcome, be it in a different way.

In Figure 8, a timeline is presented which highlights the most important project- and policy related events that can be coupled to the strategic actions of policy entrepreneurs in Buiksloterham. The inspiratory role of policy entrepreneurs as advocates of the projects mainly comes to the fore. Applying the demonstration strategy by highlighting the value of the project can be seen as one of the main differences that were made. Enthusiasm about the project was displayed to all stakeholders. A focus was thereby placed on the importance of knowledge and skills. The next quote highlights this: *"I do not want to sound presumptuous, but at the start of the project, I played an important role by convincing others about the project with my enthusiasm and technical knowledge. I knew this project would be feasible. From then onward, I brought other people in motion" (R5,2017).* Another policy entrepreneur explicitly acknowledged his role in the process of agenda setting, which proved to be an important element to ensure the implementation of decentralized wastewater

treatment would be agreed upon within the broader coalition. The following illustrates this: *"I think I served as an ambassador of decentralized water systems, as I inspired many people in the network.* Without my effort and involvement, innovation in water systems might have not been at the forefront of the agenda. During the course of the projects, it became a 'mature' subject. Otherwise the agenda would primarily consist of matters related to energy. That is the progress we made" (R3, 2017).

The inspiration of stakeholders in the network was not limited to external parties involved. Also within the internal organization, policy entrepreneurs have shown to have contributed to altering the attitude towards decentralized water systems. In the terms of Baumgartner & Jones (1991), the newly created policy images became adapted in the wider organization. However, in the context of this research, the argument that these policy images are merely challenged by exogenous shocks seems inaccurate and extreme. A subtler process was identified. The next quotes highlights this: *"Originating from my background as a technician and a researcher, I am fascinated by future developments and environmental problems. My wider role is to share knowledge with project managers, policy makers, strategists and directors within my organization. To allow them to see that decentralized water systems can be useful to them. It is about feeding them with new ideas" (R4, 2017).* 

As stated previously, despite the important role of housing corporation De Alliantie within the coalition, their primary aim was not focused on implementing decentralized water systems. Given that their development project Buiksloterham&co would account for the bulk of the dwellings that would be connected to the resource station, their participation in the coalition was vital for the success of the projects and thus for potential policy change. A crucial role in this respect was played by a policy entrepreneur from De Alliantie, whose personal belief in the importance of experimenting with decentralized water systems was in conflict with the organizations' primary aims. The subsequent passage highlights this: "I could have easily rejected the proposed decentralized wastewater treatment system by referring to my organization's primary task, but I maintained belief. I constantly drew attention to the plans within my organization. (...) If all the actors have the ambition, we should achieve it. I thought it was worth taking the risk, otherwise we would never learn" (R8,2017). Acknowledging that the success of the project is heavily determined by the involvement of Buiksloterham&co given its relative size, the policy entrepreneur from De Alliantie played a significant role to ensure the resource station would be cost-effective, by convincing the rest of the organization to support the project. This is likely to have profound influence on the final evaluation of the projects, which in turn can be used as evidence that could

support policy change which is in favor of the establishment of decentralized water systems in future developments.

Another factor that can be seen as a consequence of one of the policy entrepreneurs' actions, was the seizing of the opportunity to use a subsidy. This subsidy improved the business case of the project, which altered the conditions under which the project had to be established, as the costs became comparable to that of traditional water systems. A major obstacle was breached, as the business case without the subsidy would require large investments from several stakeholders. By using the subsidy, the establishment process also accelerated. This can be illustrated by the following: *"The plans for Buiksloterham were put on hold as the risks would become too high. However, I became aware that another project with similar objectives was cancelled, despite the fact that they could use a subsidy. I saw the opportunity to apply for this subsidy, which was approved in a later stage. From then on, it became an obligation to establish the project. The subsidy was important to foster growth, which eventually accelerated the whole process" (R5, 2017).* 

In earlier sections, it was already discussed that one of the policy entrepreneurs from the municipality of Amsterdam was able to exercise influence over the content of policy plans regarding the circular economy. By means of sharing the experiences with policy and legislation in the 'field', policy recommendations were made. Furthermore, the projects in Buiksloterham are explicitly referred to in the municipal sewage plan as pilot projects that will guide future policy decisions (Waternet, 2016a). This also suggests the projects have been taken into account when the municipal sewage plan was developed. Combining the above policy changes with the several examples of the crucial role that policy entrepreneurs have played in the establishment process of the projects, it seems likely that the first 'cracks' in the regime are a consequence of the strategic actions of policy entrepreneurs. As proposed by Smith & Raven (2012), the empirical data suggest that an intended protective space for the niche technology was created by policy entrepreneurs, while several attempts have been undertaken to shape policy that support the incorporation of the technology in the regime. Thus, in accordance with Brouwer (2015) and Meijerink & Huitema (2009), this research also acknowledges that policy entrepreneurs as individual actors can indeed steer policy change.



Figure 8: Timeline of project- and policy related events

# 9. Conclusions and Recommendations

As a potential contribution to the development of a circular economy, decentralized water systems are being incorporated in the incumbent socio-technical regime in Amsterdam. However, this incorporation does not occur swiftly and without resistance from the regime, which reflects the general notion of a multi-level perspective on transitions (Grin et al., 2010; Kemp et al., 2001; Schot et al., 1994). Part of the robustness of the regime is a consequence of existing policy structures (Meijerink & Huitema, 2009). To increase the likelihood that policy change is established that would better support this niche technology, policy entrepreneurs as individual 'change agents' were expected to play a crucial role by applying a wide range of strategies to achieve the desired change (Brouwer, 2015b; Meijerink & Huitema, 2009). Under the assumption that policy entrepreneurs are one of the individuals that can bring about change. Furthermore, the investigation of factors that drive the strategic decisions of policy entrepreneurs, leads to an improved understanding of transition dynamics, as it illustrates the ways in which the regime interacts with pressure from niche developments at the micro-level.

The importance of contextual factors for determining the application of these strategies was highlighted in previous studies (Brouwer, 2015b; Mintrom, 2000). However, previous studies have not yet developed a comprehensive contextual framework based on a rich understanding of a specific research context. Therefore, this research aimed to fill this gap, by thoroughly investigating how the context of the projects in Buiksloterham, influenced the strategy selection process. In addition, the relative contribution to the transition was also assessed, by means of the policy entrepreneur's perception on the effects of their efforts regarding the projects and policy change processes.

The above research problems were formulated in the subsequent research question:

How does the context influence the strategy selection process of entrepreneurial policy change strategies employed by policy entrepreneurs involved in the founding process of projects implementing decentralized water systems in Amsterdam and how do they perceive their contribution to the transition towards a hybrid water system?

Although it is acknowledged that this research only addressed the demonstration- and the coalition building strategy, the similarities of contextual factors that came to the fore for both strategies, suggests that statements about the contextual factors of influence on the general strategy selection process can also be made. Using empirical evidence, this study proved that policy entrepreneurs

base their decisions to apply a specific strategy on several contextual factors. Policy entrepreneurs seldom base their strategies on one specific contextual factor, which points to the fact that highlighting a single contextual factor as most essential is debatable. Rather, the strategical considerations are composed of highly complex interactions between contextual factors from the network environment, the specific project or policy proposal, the policy entrepreneur's organization, timing and personal inclination.

#### Timing

When considering the eminent study from Brouwer (2015b) on the topic of strategy selection, the most notable contribution of this research is the identification of timing as a meta contextual factor. In several occasions, policy entrepreneurs have acknowledged that changes in time alter the degree of influence from the other contextual factors. An example was that as time progressed, the position and relation to other actors changed, as several new actors and individuals became involved in the projects. This led to the necessity for the continuous application of the demonstration strategy, which is a nuance to the findings of Brouwer (2015b), who suggested that demonstrating the value of the project is primarily of importance at the beginning of a project.

#### **Network Environment**

When considering the network environment, the position and relation to other actors was thought to be a crucial factor for the strategy selection process (Brouwer, 2015b; De Bruijn & Ten Heuvelhof, 2008; Roberts, 1992). This study contends that both for the demonstration- as the coalition building strategy, policy entrepreneurs are well aware of the importance of their position and relation to other actors in the network. Being aware which actors are required in the coalition and who needs to be convinced of the feasibility of the project, is clearly derived from the position and relation to others in the network. Furthermore, level of trust most prominently plays a role for the coalition building strategy, as the belief within the coalition that the projects would be established had plunged at a certain point. For the demonstration strategy, level of trust was less relevant. This seems logical, as one does not need to be trusted when merely demonstrating the value of the project to others.

#### **Specific Project or Policy Proposal**

Regarding the specific project or policy proposal, the business case, added societal value and existing policy and legislation have not been explicitly mentioned as contextual factors of influence on the strategy selection process before. This research inductively established that these factors were taken into account by policy entrepreneurs. A potential explanation for the absence of these factors in

previous research might be that this study focussed on projects instead of policy, as especially the business case does not seem to be valid when it merely concerns the policy proposal. In accordance with Brouwer (2015b), the project size or scope was also of influence on both the demonstration strategy and the size and composition of the coalition. Lastly, Roberts (1992) suggested that the available time is also of influence. Given the overlap with timing as a meta contextual factor, this category is already covered.

#### **Policy Entrepreneur's Organization**

Turning to the policy entrepreneur's organization, in line with Currie et al. (2008), organizational structures and routines also had an impact on the strategy selection process. This was exemplified by the development of a thematic study to demonstrate the value of the projects, which proved to be a common practice within Waternet. In addition, Mintrom (2000) explicitly refers to the type or culture of the organization as having an impact on the chosen strategies. This research also acknowledged this factor, as the projects in Buiksloterham were seen as a disturbance for Waternet's general organizational occupations, which increased the difficulty to demonstrate the value of the projects. Nevertheless, the organization's culture shows some overlap with organizational structures and routines, which is why the above factors are united under a single category. Lastly, preferences of directors and aldermen in power also proved to be of significant influence, as demonstrating the feasibility of the projects became easier when supported from above. Furthermore, decisions at the higher level have also led to the formation of the coalition, as the Land Development department was ordered to participate. These findings support the claims of Snare (1995).

#### **Personal Inclination**

Although it was already acknowledged that it is debatable to highlight a particular contextual factor as being of most influence on the strategy selection process, the main argument of this research is that personal inclination ultimately determines the strategic actions of policy entrepreneurs. This finding does not differ from earlier studies, as both Brouwer (2015b) and Mintrom (2000) came to similar conclusions. However, this research expanded the categorical framework, by adding personal objectives and knowledge and skills as important personal factors of influence, whilst providing empirical evidence for the earlier identified aspects of personal inclination. The final model of the strategy selection process as established from empirical reality is presented in Figure 9. In line with Brouwer (2015b), this research also suggest that perceived reality serves as a filter for the interpretation of other contextual factors, which is represented by the dotted line. Furthermore, as

argued by Mintrom (2000), personal experiences have also shown to be a decisive factor, as policy entrepreneurs determined the size and composition of the coalition on their experience that broad coalitions should generally be avoided when concrete projects are concerned. In accordance with Scharpf (1997), personal preferences have also played a role, as one of the policy entrepreneurs strategically acted upon personal preferences for a 'network-oriented' approach regarding the projects. The statement from Brouwer (2015b) that the decision to apply a particular strategy is primarily context dependent can be considered valid. Nevertheless, the ways in which a policy entrepreneur interprets contextual factors and how those factors result in particular actions is a highly personal matter.

To validate the above conclusion on the strategy selection process, future research should commence with investigating strategies that could not be addressed in this research. This to assess whether the presented framework is complete and valid for all strategies. It seems logical to assume that other strategies might have different contextual factors of influence. Furthermore, now that a more comprehensive contextual framework is developed, future studies can start addressing the question of effectiveness with reference to the identified contextual factors in this study. In Brouwer (2015b) effectiveness is already addressed, but the section on effectiveness relies heavily on the assumption that policy entrepreneurs know best what 'works', which is an arguable assumption. Instead, it can be attempted to test the effectiveness of the entrepreneurial policy change strategies by monitoring the 'measurable' changes, such as alterations in policy. Qualitative interviews might serve as the best way to capture the richness required to connect the dots between individual strategic actions and policy changes. A focus on the relationship between projects and policy is also recommended, as the establishment of the projects turned out to be of great importance for policy changes.



#### Figure 9: Expanded strategy mix selection process: Based on Brouwer (2015b)

#### **Contribution to Transition**

The last section of this conclusion returns to the question of how policy entrepreneurs perceive their contribution to the transition to a hybrid water system. The policy entrepreneurs acknowledged that before one can speak of a transition, many other structural changes have to occur than merely alterations of policy and the establishment of more projects. Nevertheless, it was clearly ventilated that without their efforts, decentralized water systems would not have become such a 'mature' subject in Amsterdam. When reconsidering the timeline of project- and policy related events in Figure 8, it indeed becomes clear that policy entrepreneurs have contributed to the alignment of the three streams, which is believed to be a prerequisite for policy change (Kingdon, 1984). The problem stream was presented to actors involved by demonstrating the potential benefits of circular developments in Buiksloterham and the challenges it poses on current governance- and policy structures. In other words, a sense of urgency was created. Subsequently, the policy stream was also directed by policy entrepreneurs, which consisted of strategies and policy proposals to address the issues that were raised from a collaborative thematic study about the feasibility of decentralized water systems in Buiksloterham. Lastly, the political stream could be coupled to the other streams as a result of the signed manifest, which created political momentum to establish the projects.

From the above it can be derived that policy entrepreneurs were surely responsible for causing the first 'cracks' in the regime, as the pilot projects were unlikely to be established without the strategic actions of policy entrepreneurs. Moreover, the impact of the strategic actions was not limited to the projects, as the recently developed municipal sewage plan explicitly highlights that decentralized water systems have to be considered when new project developments take place.

These findings indicate that ultimately, individuals, rather than public-sector organizations were decisive to establish policy change in the context of the incorporation of decentralized water systems in the regime. It was the ingenuity and effort from individual policy entrepreneurs as 'highly-skilled foot soldiers' within those organizations, that ignited change. These findings suggest that when change is concerned, public sector organizations have to be aware of their own 'robustness', that generally results in prioritizing business as usual. However, more importantly, if change is desired, they have to provide sufficient freedom for policy entrepreneurs to carry out their activities outside traditional pathways. Fear of providing too much power and freedom to policy entrepreneurs seems unnecessary, as the very nature of incumbent socio-technical regimes ensure sufficient friction is experienced when the feasibility of innovative ideas is assessed.

A last illustration in this respect, which connects the contextual factors informing the strategy selection to the contribution to the transition, is the effect of the business case. Despite public sector organization's interest in the prospects of the projects, cost effectiveness remained a crucial precondition for eventual establishment. However, the importance of the contextual factor changed the moment a subsidy was allocated, which was a direct consequence of a policy entrepreneur's actions. In this example, it becomes clear that when sufficient freedom is awarded to policy entrepreneurs, the contextual factors of influence on the outcome of the projects can be controlled, as the ingenuity and actions of policy entrepreneurs lead to creative solutions. In other words, one can conclude that when policy entrepreneurs get behind the wheel, shortcuts and alternative pathways can be taken to steer society away from traditional- and unsustainable practices.

# Literature

Baumgartner, F. R., & Jones, B. D. (1991). Agenda Dynamics and Policy Subsystems. *The Journal of Politics*, 53(4), 1044–1074.

Bisschops, I., & Weijma, J. (2015). *Inzameling zwartwater Cityplot Buiksloterham*. Wageningen.

- Brouwer, S. (2015a). Policy Entrepreneurs and Strategies for Change: The Case of Water Management in the Netherlands. *International Journal of Water Governance*, *3*, 140–144.
- Brouwer, S. (2015b). Policy entrepreneurs in water governance: Strategies for change. Policy Entrepreneurs in Water Governance: Strategies for Change. Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-3-319-17241-5
- Brouwer, S., & Biermann, F. (2011). Towards adaptive management: Examining the strategies of policy entrepreneurs in dutch water management. *Ecology and Society*, *16*(4). https://doi.org/10.5751/ES-04315-160405
- Brouwer, S., & Huitema, D. (2017). Policy entrepreneurs and strategies for change. *Regional Environmental Change*. https://doi.org/10.1007/s10113-017-1139-z
- Bryman, A. (2012). Social Research Methods. Oxford University Press. https://doi.org/10.1017/CBO9781107415324.004
- Circle Economy, TNO, & Fabric. (2015). *Circular Amsterdam: A vision and action agenda for the city and the metropolitan area*.
- Cook, S., Tjandraatmadja, G., Ho, A., & Sharma, A. (2009). Definition of Decentralised Systems in the South East Queensland Context Urban Water Security Research Alliance Technical Report No .
  12. Urban Water Security Research Alliance, (12).
- Currie, G., Humphreys, M., Ucbasaran, D., & Mcmanus, S. (2008). Entrepreneurial leadership in the English public sector: Paradox or possibility? *Public Administration*, *86*(4), 987–1008.
- Daigger, G. T., & Crawford, G. V. (2007). Enhancing Water System Security and Sustainability By Incorporating Centralized and Decentralized Water Reclamation and Reuse Into Urban Water Management Systems. J. Environ. Eng. Manage, 17(1), 1–10.
- De Bruijn, H., & Ten Heuvelhof, E. (2008). *Management in networks: On multi-actor decision making*. New York, NY: Routledge.
- Dube, S., & Danescu, D. (2011). Supplemental Guidance : Public Sector Definition. The Institute of Internal Auditors.
- Geels, F. W. (2002). Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Research Policy*, *31*, 1257–1274. https://doi.org/10.1016/S0048-7333(02)00062-8
- Gemeente Amsterdam. (2016). Koers 2025: Ruimte voor de stad.
- Gemeente Amsterdam. (2017). Studie Ruimte voor Nieuwe Sanitatie.
- Geng, Y., & Doberstein, B. (2008). Developing the circular economy in China: Challenges and opportunities for achieving'leapfrog development'. *International Journal of Sustainable Development & World Ecology*, 15(April 2016), 231–239. https://doi.org/10.3843/SusDev.15.3

- Glaser, B. G., & Straus, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine.
- Goldratt, B. E., Goldratt, R., & Abramov, E. (2002). Strategy and Tactics. Retrieved from http://www.goldrattresearchlabs.com/documents/The TOC approach to Strategy and Tactics by Eli Goldratt.pdf
- Grin, J., Rotmans, J., Schot, J., Geels, F. W., & Loorbach, D. (2010). *Transitions to Sustainable Development - New Directions in the Study of Long Term Transformative Change*. New York, NY: Routledge.
- Hall, P. A. (1993). Policy Paradigms , Social Learning , and the State : The Case of Economic Policymaking in Britain. *Comparative Politics*, *25*(3), 275–296.
- Howlett, M., & Cashore, B. (2009). The Dependent Variable Problem in the Study of Policy Change: Understanding Policy Change as a Methodological Problem. *Journal of Comparative Policy Analysis*, 11(1), 33–46. https://doi.org/10.1080/13876980802648144
- Huitema, D., & Meijerink, S. (2007). Understanding and managing water transitions: a policy science perspective. Amsterdam Conference on Earth System Governance. Retrieved from http://www.2007amsterdamconference.org/Downloads/AC2007\_HuitemaMeijerink.pdf
- Kemp, R., Rip, A., & Schot, J. W. (2001). Constructing Transition Paths Through the Management of Niches. In R. Garud & P. Karnoe (Eds.), *Path Dependence and Creation* (pp. 269–299). Lawrence Erlbaum, Mahwah, NJ.
- Kemp, R., Rotmans, J., & van Asselt, M. (2001). More evolution than revolution: transition management in public policy. *Foresight*, 3(1), 15–31. https://doi.org/10.1108/14636680310471253
- Kingdon, J. (1984). Agendas, alternatives, and public policy. New York, NY: Harper Collins.
- Koffijberg, J. (2005). *Getijden van beleid: omslagpunten in de volkshuisvesting: Over de rol van hierarchie en netwerken bij grote veranderingen*. Delft: Delft University Press. Retrieved from http://www.library.tudelft.nl/dup/
- Koppenjan, J., & Klijn, E. H. (2004). *Managing uncertainties in networks: A network approach to problem solving and decision making*. London: Routledge.
- Krozer, Y., Hophmayer-Tokich, S., van Meerendonk, H., Tijsma, S., & Vos, E. (2010). Innovations in the water chain - experiences in The Netherlands. *Journal of Cleaner Production*, 18(5), 439– 446. https://doi.org/10.1016/j.jclepro.2009.11.013
- KWR, Kennisland, & AWS. (2016). Programma-aanpak voor Vernieuwing in Watergovernance.
- Lindblom, C. E. (1959). The Science of Muddling Through. *Public Administration Review*, 19(2), 79–88. https://doi.org/10.2307/973677
- Loorbach, D. A., Shiroyama, H., Wittmayer, J. M., Fujino, J., & Mizuguchi, S. (2016). Governance of Urban Sustainability Transitions. (D. Loorbach, Ed.) (1st ed.). Springer Japan. https://doi.org/10.1007/978-4-431-55426-4
- Marlow, D. R., Moglia, M., Cook, S., & Beale, D. J. (2013). Towards sustainable urban water management: A critical reassessment. *Water Research*, *47*(20), 7150–7161. https://doi.org/10.1016/j.watres.2013.07.046

- McCown T.L. (2004). Policy entrepreneurs and policy change examining the linkages between TANF, domestic violence and teh FVO. Morgantown: West Virginia University Libraries.
- Meijerink, S., & Huitema, D. (2009). "Water transitions, policy entrepreneurs and change strategies: lessons learned." In S. Meijerink & D. Huiteman (Eds.), *Water policy entrepreneurs: a research* companion to water transitions around the globe (pp. 137–157). Cheltenham, UK.
- Meijerink, S., & Huitema, D. (2010). Transitions in water management the role of policy entrepreneurs. *Ecology and Society*, *15*(1), 25. https://doi.org/26
- Metabolic, Studioninedots, & DELVA Landscape Architects. (2015). *Een Living Lab voor circulaire gebiedsontwikkeling: Circulair Buiksloterham, visie en ambitie.*
- Ministerie van Infrastructuur en Milieu. Uitvoeringsbesluit Meststoffenwet (2015).
- Mintrom, M. (2000). Public Entrepreneurs and School Choice. Georgetown: University Press.
- OIS. (2016). Bevolkingsprognose 2016.
- Roberts, N. C. (1992). Public entrepreneurship and innovation. *Review of Policy Research*, 11(1), 55–74.
- Roberts, N. C., & King, P. J. (1991). Policy Entrepreneurs: Their Activity Structure and Function in the Policy Process. *Journal of Public Administration Research and Theory*, 1(2), 147–175.
- Sabatier, P. A. (1988). An advocacy coalition framework of policy change and the role of policyoriented learning therein. *Policy Sciences*, *21*(2–3), 129–168. https://doi.org/10.1007/BF00136406
- Sapkota, M., Arora, M., Malano, H., Moglia, M., Sharma, A., George, B., & Pamminger, F. (2014). An Overview of Hybrid Water Supply Systems in the Context of Urban Water Management: Challenges and Opportunities. *Water*, 7(1), 153–174. https://doi.org/10.3390/w7010153
- Scharpf. (1997). *Games real actors play: Actor-centered institutionalism in policy research*. Boulder: Westview Press.
- Schot, J., Hoogma, R., & Elzen, B. (1994). Strategies for shifting technological systems. The case of the automobile system. *Futures*, 26(10), 1060–1076. https://doi.org/10.1016/0016-3287(94)90073-6
- Sharma, A., Burn, S., Gardner, T., & Gregory, A. (2010). Role of decentralised systems in the transition of urban water systems. *Water Science and Technology: Water Supply*, 10(4), 577– 583. https://doi.org/10.2166/ws.2010.187
- Smith, A., & Raven, R. (2012). What is protective space? Reconsidering niches in transitions to sustainability. *Research Policy*, *41*(6), 1025–1036. https://doi.org/10.1016/j.respol.2011.12.012
- Snare, C. E. (1995). Windows of opportunity: When and how can the policy analyst influence the policy maker during the policy process. *Review of Policy Research*, *14*(3–4), 407–430.
- Stowa. (2017). Sani-wijzer. Retrieved from https://www.google.com/maps/d/u/0/viewer?mid=1Lxu9Qu1QFaQzKvtUwuSZaooxig0&II=52.4 06900445031944%2C4.978380826089165&z=10
- Taylor, A., Cocklin, C., Brown, R., & Wilson-Evered, E. (2011). An investigation of champion-driven leadership processes. *Leadership Quarterly*, 22(2), 412–433.

https://doi.org/10.1016/j.leaqua.2011.02.014

- van Leeuwen, C. J., Frijns, J., van Wezel, A., & van de Ven, F. H. M. (2012). City Blueprints: 24 Indicators to Assess the Sustainability of the Urban Water Cycle. *Water Resources Management*, 26(8), 2177–2197. https://doi.org/10.1007/s11269-012-0009-1
- Waternet. (n.d.). Wat doen wij? Retrieved June 12, 2017, from https://www.waternet.nl/overons/wat-doen-wij/

Waternet. (2016a). Gemeentelijk Rioleringsplan Amsterdam. Amsterdam.

- Waternet. (2016b). Onderzoek & Innovatie Jaarverslag 2016. Retrieved from https://www.waternet.nl/contentassets/b83d5db7c4e1482b8947b85e3bfebce1/jaarverslag-2016-onderzoek-en-innovatie.pdf
- Yu, C., Brown, R., & Morison, P. (2012). Co-governing decentralised water systems: An analytical framework. Water Science and Technology, 66(12), 2731–2736. https://doi.org/10.2166/wst.2012.489

# Appendix A: Definition Sheet and Original Interview Guide

#### Inleiding en toestemming

Welkom, mijn dank voor uw medewerking aan dit onderzoek.

Alle informatie die u verstrekt zal geheel vertrouwelijk worden behandeld. Dit betekent dat uw antwoorden nooit teruggevoerd kunnen worden op u als individuele deelnemer. Om zo goed mogelijk gebruik te maken van de informatie die u geeft, vraag ik uw toestemming om het gesprek op te nemen. De geluidsbestanden zullen na analyse worden vernietigd.

Datum en handtekening ter akkoord gebruik gegevens:

### Inhoudelijke informatie

Voor mijn masterstudie Environmental Geography aan de Uva schrijf ik mijn scriptie over de strategische handelingen van beleidsondernemers uit de publieke sector die betrokken zijn bij de projecten gericht op de implementatie van decentrale sanitatie in Buiksloterham, Amsterdam. Het gaat specifiek om de projecten 'Schoonschip' en 'Buiksloterham&co'. Dit onderzoek valt binnen de bredere context van de transitie naar een circulaire economie, waar het hergebruik van afvalwater en andere grondstoffen een belangrijk onderdeel van uit maakt. De verwachting is dat betrokken beleidsondernemers deze verandering voor ogen hebben en vanuit dat vertrekpunt handelen om deze verandering mede vorm te geven. Bijvoorbeeld door het beïnvloeden van beleid dat deze verandering mogelijk maakt of actieve ondersteuning bij het implementatieproces van de projecten.

De focus ligt op de manier waarop contextuele factoren omtrent het project invloed hebben op de effectiviteit van de strategische handelingen die worden verricht door beleidsondernemers. De belangrijkste vragen zijn: Welke strategieën worden toegepast binnen deze specifieke context en welke invloed hebben contextuele factoren op de keuze om bepaalde strategieën wel of niet toe te passen? Door te onderzoeken welke contextuele factoren bepalend zijn voor deze keuze, kunnen er conclusies worden getrokken over de mate van effectiviteit binnen de specifieke onderzoek context. De aanname is hierbij dat beleidsondernemers zelf het beste weten in welke context een strategie haar doel bereikt en dus goed 'werkt'.

Dataverzameling wordt gedaan door betrokkenen bij de projecten vanuit de Gemeente Amsterdam, Waternet en De Alliantie te interviewen. Daarnaast worden er een aantal surveyvragen gesteld, gedeeltelijk gebaseerd op het werk van Brouwer (2015). De bredere ambitie is om een compleet beeld te vormen over de manier waarop beleidsondernemers op een effectieve manier kunnen bijdragen aan een transitie naar een hybride watersysteem in Amsterdam.

#### Praktische informatie

- Concrete definities van sleutelbegrippen zijn gegeven op de volgende pagina. Deze kunt u gebruiken als naslagwerk.
- Bij de vragen gaat het erom dat u uw antwoorden alléén baseert op de door u toegepaste aanpak die volgens u van (in)directe invloed zijn op de projecten 'Schoonschip' en (of) 'Buiksloterham&co'. Het gaat dus specifiek om uw visie op uw strategische handelingen met betrekking tot deze projecten, niet in zijn algemeenheid.
- De gesloten- en open vragen worden afwisselend gesteld en de vragenlijst krijgt daarmee de vorm van een gesprek.

#### Policy entrepreneur (beleidsondernemer)

Binnen de Nederlandse watersector wordt een beleidsondernemer in de literatuur doorgaans gezien als een individu uit de publieke sector die bekend staat om zijn of haar vernieuwende ideeën en gedrevenheid om (beleid)veranderingen te bewerkstelligen (Brouwer, 2015). De formele functie is daarbij ondergeschikt aan de kenmerken en handelingen van de beleidsondernemer. Deze bestaan onder andere uit het vermogen om kritisch en 'out of the box' te denken en 'vraag' (probleem) en 'aanbod' (oplossing) bij elkaar te brengen. Verder hebben beleidsondernemers een hoge bereidheid om risico's te nemen. Zij zijn gedurende verschillende stadia betrokken bij ambitieuze projecten en doorgaans niet bang om te falen.

#### Project/projecten/beleidsplannen

Onder 'projecten/beleidsplannen' worden de concrete (beleids)plannen voor de implementatie van decentrale sanitatie-systemen verstaan die gezamenlijk vallen onder de namen 'Schoonschip' en (of) 'Buiksloterham&co'. U kunt refereren naar uw eigen project vanuit de organisatie waarvoor u werkzaam bent zo lang deze onderdeel uitmaakt van het grotere geheel van één of beide projecten. Beleidsplannen en projecten worden samengevoegd tot één begrip omdat de route tot realisatie van het project in de praktijk via beleid kan lopen.

#### Contextuele factoren/omstandigheden

Contextuele factoren hebben invloed op de keuze voor het gebruik van bepaalde strategieën. Deze factoren zijn aan de hand van literatuur en oriënterende interviews geïdentificeerd als deels bepalend voor de keuze van strategische handelingen met betrekking tot de projecten (Brouwer, 2015). Voor het interview is het belangrijk als u deze even goed doorleest. De bovenste contextuele factoren zijn relatief abstract. Deze zijn verder geconcretiseerd met voorbeelden.



#### Strategieën

Op voorhand is er een selectie gemaakt van een aantal specifieke strategieën op basis van relevantie voor het project/de projecten en relevante literatuur (Brouwer, 2015b). De volgende strategieën zullen worden onderzocht:

- Demonstration strategy:

Het demonstreren aan interne en externe betrokkenen dat bepaalde (beleid)oplossingen/projecten relevante problemen kunnen oplossen.

#### - Coalition building:

Het bouwen van een coalitie met andere actoren om steun (bijv. financieel, legitimiteit) voor de beleidsverandering/het project te vergroten.

- Issue linking:

Het linken van twee of meer problemen van andere partijen om substantieve en/of strategische redenen.

- Networking:

Het bouwen en onderhouden van netwerken met andere betrokken actoren om 'strategische' kennis te vergaren.

- Venue shopping:

Het zoeken naar een alternatieve plek buiten de conventionele paden en procedures, om de beleidsverandering/het project te realiseren. Bijvoorbeeld door op een ander overheidsniveau te gaan opereren (regionaal, nationaal, Europees, mondiaal). Een nieuwe plek van besluitvorming creëren is ook een vorm van venue shopping (adviescomités, klankborden, onderzoeksprojecten).

#### - Timing:

Het beïnvloeden van tijdsdruk in beleidsvormingsprocessen, door ze te versnellen of af te remmen. Daarnaast ook als meta-strategie, de juiste timing van alle strategieën.

# **Deel 1: Semigestructureerd**

Vraag 1: Voor welke organisatie bent u werkzaam?

- o Waternet
- o Gemeente Amsterdam
- De Alliantie
- Anders nl.

Vraag 2: Hoe omschrijft u uw formele functie?

- Hoe omschrijft u uw informele functie?

Vraag 3: Bij welk(e) project(en) bent/was u betrokken?

- Schoonschip
- Buiksloterham&co
- o Beide
- o Geen, alleen beleidsmatig, bijvoorbeeld het naleven regelgeving
- Hoe zijn deze projecten volgens u aan elkaar gerelateerd?

Vraag 4: In welke periode bent/was u betrokken bij het project/de projecten?

- Welke fases zijn daarbij te onderscheiden?

Vraag 5: Hoe omschrijft u uw betrokkenheid bij het project/de projecten?

Vraag 6: Wat is uw organisatorische doelstelling met betrekking tot het project/de projecten?

- Wat is uw persoonlijke doelstelling met betrekking tot het project/de projecten?
- Wat is uw maatschappelijke doelstelling met betrekking tot het project/de projecten?

Vraag 7: Welke problemen komt u tegen voor het behalen van uw doelstellingen met betrekking tot het project/de projecten

Vraag 8: Welke rol speelt beleid en regelgeving bij het realisatieproces van het project/de projecten?

- Wat is uw specifieke rol bij beleidsvormingsprocessen?

# Deel 2: Survey/Semigestructureerd

### Attention- and Support Seeking Strategies

#### Demonstration strategy

Vraag 9: Wanneer u steun probeert te krijgen van andere actoren voor het project/een beleidsverandering, hoe belangrijk vindt u de volgende activiteiten?

- a. Demonstreren van succesvolle, vergelijkbare projecten/beleidsveranderingen
  - Zeer onbelangrijk
  - o Onbelangrijk
  - o Neutraal
  - o Belangrijk
  - Zeer Belangrijk
- b. Demonstreren dat het project/de beleidsverandering één of meerdere problemen oplost
  - Zeer belangrijk
  - Belangrijk
  - o Neutraal
  - $\circ$  Onbelangrijk
  - o Zeer onbelangrijk
- c. Overtuigen van de andere partij waarvan u steun probeert te krijgen dat de beleidsverandering/ het project ook in hun belang is
  - Zeer onbelangrijk
  - Onbelangrijk
  - o Neutraal
  - o Belangrijk
  - Zeer Belangrijk
- d. Het illustreren van het (beleid)probleem aan de hand van feiten en figuren
  - Zeer onbelangrijk
  - o Onbelangrijk
  - o Neutraal
  - o Belangrijk
  - o Zeer Belangrijk
- e. Onder welke omstandigheden is aandacht/steun vragen voor het project/de projecten **belangrijk** om uw doelstellingen te behalen? Kunt u een voorbeeld geven?
- f. Onder welke omstandigheden is aandacht/steun vragen voor het project/de projecten **minder belangrijk** om uw doelstellingen te behalen? Kunt u een voorbeeld geven?

#### **Coalition building**

Vraag 10: In hoeverre bent u het eens met de volgende stelling?

- a. Een grote coalitie is van belang om mijn doelstellingen met betrekking tot het project/de projecten te behalen
  - Helemaal mee eens
  - o Mee eens
  - o Neutraal
  - o Mee oneens
  - Helemaal mee oneens
- b. Met betrekking tot het project/de projecten, welke contextuele factoren bepalen het 'juiste' formaat van de coalitie om uw doelstellingen te behalen? Kunt u dit toelichten met concrete voorbeelden?
- c. Wanneer en waarom is het uitsluiten van andere partijen gunstig om uw doelstellingen te behalen?

#### Linking Strategies

#### **Issue linking**

Vraag 11: In hoeverre bent u het eens met de volgende stelling?

- a. Het linken van problemen met betrekking tot het project aan één of meerdere problemen van andere actoren om strategische redenen is een goed idee
  - Helemaal mee oneens
  - Mee oneens
  - o Neutraal
  - o Mee eens
  - Helemaal mee eens
- b. Onder welke omstandigheden is het linken van problemen aan één of meerdere problemen van andere partijen volgens u **wel** een goed idee is?
- c. Onder welke omstandigheden is het linken van problemen aan één of meerdere problemen van andere partijen volgens u**geen** goed idee is?

### **Relational Management Strategies**

#### **Networking**

Vraag 12: Voor het realiseren van een beleidsverandering/het project, hoe belangrijk vindt u de volgende activiteiten?

- a. Het opbouwen en handhaven van goede externe relaties
  - o Zeer onbelangrijk
  - o Onbelangrijk
  - o Neutraal
  - $\circ$  Belangrijk
  - o Zeer Belangrijk
- b. Het opbouwen en handhaven van goede interne relaties
  - Zeer belangrijk
  - o Belangrijk
  - o Neutraal
  - o Onbelangrijk
  - o Zeer onbelangrijk
- c. Het selectief benaderen van potentiële partners
  - Zeer onbelangrijk
  - o Onbelangrijk
  - o Neutraal
  - o Belangrijk
  - o Zeer Belangrijk
- d. Met betrekking tot uw doelstellingen voor het project/de projecten, wie zijn volgens u de belangrijkste actoren om mee te netwerken en waarom?
- e. Onder welke omstandigheden is het wel gunstig om met deze actoren te netwerken?
- f. Onder welke omstandigheden is het <u>niet</u> gunstig om met deze actoren te netwerken?

### **Arena Strategies**

#### Venue shopping

Vraag 13: Voor het realiseren van een beleidsverandering/project, hoe belangrijk vindt u de volgende activiteiten?

- a. Het kiezen van het meest geschikte overheidsniveau (lokaal, regionaal, nationaal, Europees) waarmee in samenwerking het project kan worden gerealiseerd/het beleidsprobleem kan worden opgelost
  - Zeer belangrijk
  - Belangrijk
  - o Neutraal
  - o Onbelangrijk
  - Zeer onbelangrijk
- b. Het kiezen van het meest geschikte overheidsniveau (lokaal, regionaal, nationaal, Europees) waarop gebruik gemaakt kan worden van subsidies voor het project/de beleidsverandering
  - Zeer onbelangrijk
  - Onbelangrijk
  - Neutraal
  - o Belangrijk
  - o Zeer Belangrijk
- c. Het creëren van een alternatieve 'plaats' om problemen omtrent het project/het (beleid)probleem op te lossen (oprichten van adviescomités, klankborden, onderzoeksprojecten)
  - Zeer onbelangrijk
  - Onbelangrijk
  - o Neutraal
  - Belangrijk
  - Zeer Belangrijk
- d. Wanneer zoekt u naar samenwerking op een ander overheidsniveau (verticaal) om het (beleid)probleem op te lossen? Welke voorbeelden kunt u hier van geven?
- e. Wanneer kiest u ervoor om een andere (nieuwe) 'plaats' te creëren om het (beleid)probleem op te lossen? Welke voorbeelden kunt u hier van geven?

### <u>Timing</u>

Vraag 14: Voor het realiseren van een project/beleidsverandering, hoe belangrijk vindt u de volgende momenten van timing?

- a. Het moment waarop nieuwe ideeën (projecten of beleid) worden gepresenteerd
  - o Zeer belangrijk
  - o Belangrijk
  - o Neutraal
  - Onbelangrijk
  - Zeer onbelangrijk
- b. Het moment waarop potentiële coalitiepartijen worden betrokken
  - Zeer onbelangrijk
  - Onbelangrijk
  - o Neutraal
  - o Belangrijk
  - o Zeer Belangrijk
- c. Het versnellen en/of vertragen van het beleidsvormingsproces
  - o Zeer belangrijk
  - o Belangrijk
  - o Neutraal
  - o Onbelangrijk
  - Zeer onbelangrijk
- d. Wat is het 'juiste moment om nieuwe ideeën (projecten of beleid) te presenteren? Kunt u hier een voorbeeld van geven met betrekking tot het project?
- e. Wat is het juiste moment om potentiële coalitiepartijen te betrekken bij het project? Kunt u hier een voorbeeld van geven met betrekking tot het project?
- f. Wanneer versnelt u beleidsvormingsprocessen die van invloed zijn op de projecten? Wanneer vertraagt u deze beleidsvormingsprocessen?
- g. Timing kan ook gezien worden als een metastrategie, als bepalend zijnde voor de mate van effectiviteit van alle strategieën. Welk voorbeeld heeft u met betrekking tot het project waaruit bleek dat de juiste timing van een bepaalde strategie cruciaal is? U mag elke strategie kiezen.

Vraag 15: In het onderstaande schema is een overzicht gegeven van de contextuele factoren die van invloed zijn op de toepassing van strategische handelingen. Welke contextuele factor(en) heeft/hebben het meeste invloed op uw <u>algemene</u> strategische aanpak met betrekking tot het project en waarom?

- Mist u een bepaalde contextuele factor die belangrijk is voor uw afweging voor een bepaalde strategische handeling? Zo ja, welke en waarom?



Vraag 16: Beleidsverandering en pilotprojecten met nieuwe technieken worden in de literatuur gezien als belangrijke onderdelen van een transitie. In hoeverre draagt de realisatie van een beleidsverandering/project volgens u bij aan een transitie naar een nieuw watersysteem? (Hybride: centraal en decentraal)

- Welke rol spelen uw strategische handelingen bij de transitie naar een nieuw watersysteem?

Vraag 17: Kent u nog andere personen binnen uw eigen organisatie of andere organisaties uit de publieke sector die betrokken zijn bij het project/de projecten, die geclassificeerd kunnen worden als een beleidsondernemer? Zo ja, wilt u hun naam, organisatie en contactgegevens met mij delen?

Hartelijk dank voor uw medewerking!

# Appendix B: Definitional Criteria Public Sector Organizations

"Several criteria can be applied to determine whether a particular organization, in any political jurisdiction, belongs within the public sector in one of the rings depicted in the diagram. If it does not, then it remains outside the public-sector boundary. Positive answers to most of the criteria listed below will place an organization within the boundary. In many cases, some judgment may be required, as the complexity of modern governmental structures does not always provide for clear and precise decisions" (Dube & Danescu, 2011, p. 6).

1. Does the organization deliver programs, goods, or services that can be considered a public good or that are established by government policy?

2. Is substantially all of the organization's funding provided by government or determined by government policy?

3. Is the organization accountable to, and does it report directly to government, including a government department or agency, or a minister of government?

4. If the organization has a board of directors, commission, or similar appointed body, does government control a majority of appointments?

5. If the organization has share capital, is government the majority shareholder?

6. Are the organization's employees members of the public service, subject to public service rules, and receiving public service benefits?

7. Overall, does government control, directly or indirectly, the organization's policies, operations, administration, or service delivery?

8. Is there a legislative requirement for the organization to be audited by the government auditor or supreme audit organization?