

Lost in translation?

An analysis of how divergent discourses influence the planning process of urban sustainability in the case of Nordhavn in Copenhagen.

Katrine Georg Rasmussen

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Lund University Centre for
Sustainability Studies



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Abstract

There is a consensus within both academia and politics on the important role of cities in achieving a more sustainable world, however, many scholars emphasise that the implementation of sustainable cities is often unsuccessful. The planning process from sustainability visions to actual implementation in an urban context is not straightforward or linear, and discursive struggles influence the process. This thesis assesses how competing discourses influence the planning process of the sustainable urban development project in Nordhavn in Copenhagen, based on Hajer's (1995) theory on the argumentative approach and Dryzek's (2013) theory on discourse categorizations. The discourse analysis is based on policy documents, public hearing statements and interviews with relevant actors from the public and private sector as well as civil society. The thesis finds, that the general storyline for urban planning in Copenhagen consists of a mix of the 5 discourses: Administrative Rationalism, Democratic Pragmatism, Economic Rationalism (ER), Ecological Modernization (EM) and Sustainable Development (SD), and has some major inherent contradictions, which relate to the debate on EM and SD in the literature. The main contradictions were identified to revolve around whether or not social, environmental and economic sustainability can be implemented simultaneously in the built environment without trade-offs, and whether economic growth is a prerequisite or a deal-breaker for sustainability. The contradictions were seen to cause different conflicts and clashes throughout the planning process of Nordhavn leading to civil society actors losing faith in the storyline, while investors were accommodated. Generally, the economic focus of ER and EM was most determining throughout the process, while SD mainly impacted the visions and strategies, but along with EM also play a role in the subsequent branding of Nordhavn. Generally, urban sustainability is translated into green technologies and architecturally well-designed urban spaces. The thesis finally argues that the inherent contradictions and limitations to the storyline related to EM and SD, and the conflicts it was seen to cause in the case of Nordhavn proves that while EM and SD has driven a change towards more focus on sustainability it is now time for new approaches in Copenhagen and in relation to urban sustainability in general.

Keywords: Urban sustainability, discourse analysis, Copenhagen, urban planning process, Sustainable Development, Ecological Modernization

Word Count: 13.963

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List of abbreviations

AR: Administrative Rationalist discourse

B&H: By & Havn (previously called the property development company)

CM: Copenhagen Municipality

DP: Democratic Pragmatist discourse

EM: Ecological Modernization discourse

ER: Economic Rationalist discourse

MIM: The Danish Ministry of Environment

PFA: A Danish pension company with its headquarters based in Nordhavn

SC: Sustainable City

SD: Sustainable Development discourse

ØHC: Østerbro Harbour Committee

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1 Problem introduction

The world is experiencing serious and urgent sustainability issues both in relation to environmental planetary boundaries (Rockström et al., 2009) and social and economic equality (Raworth, 2012). At the same time, more than half of the world's population now live in cities and the urban population is expected to increase further in the future (Hall & Barrett, 2012). Cities contribute to the majority of global environmental problems such as pollution, depletion of resources and land-use change (See Ahvenniemi, Huovila, Pinto-Seppä, & Airaksinen, 2016; Bayulken & Huisingh, 2015; Hall & Barrett, 2012; Joss, 2015; Revi et al., 2014; UN, 2016; Yigitcanlar & Kamruzzaman, 2015). Consequently, cities are seen as crucial in the path towards a more sustainable world, and since the mid-90's the debate on urban sustainability in academia, politically and in the media have boomed (Ahvenniemi et al., 2016; Hall & Barrett, 2012; Jong, Joss, Schraven, Zhan, & Weijnen, 2015; Joss, 2015; Yigitcanlar & Kamruzzaman, 2015).

However, there are substantial amounts of critiques within academia towards the unsuccessful implementation of sustainable cities (McLean & Borén, 2014). They range from focusing on the neglect of social dimensions (Moore & Bunce, 2009), ecological gentrification (Dooling, 2009), eco-branding (Anderberg & Clark, 2013) and problematizing the role of private and economic interests (Brand, 2007), to focusing on the abstract nature of the concept of urban sustainability. The latter often focuses on the importance of developing tools (McLean & Borén, 2014), while some criticise such tools (Birkeland, 2012).

The above-mentioned studies do not agree on what the problems or the solutions are. However, their suggestions of implementation issues indicate that urban sustainability policies as they are carried out and implemented today are unsuccessful. According to Pugalís (2009), many plans, visions and strategies in policy making never materialise or have little influence on what is materialised. The process from policies and intentions to the actual implementation of sustainability in an urban context is not straightforward or linear, if even possible.

In this thesis, urban sustainability is seen in its broad terms: Urban development with a long-term view on protecting natural resources from depletion while ensuring equal rights for present and future generations to natural resources and the urban space. However, within this frame, there are many discourses that give different meaning to urban sustainability, why it is important and how it should be implemented. These discourses provide urban actors with the reasoning for certain

initiatives and political priorities and therefore play a central role in how the planning process plays out in practice (Polk, 2010).

This thesis seeks to examine how divergent discourses that give meaning to urban sustainability shape the urban planning process: From visions to strategies, to detailed legally binding plans and finally to the construction of the urban space, that citizens and businesses inhabit. To do this, I have chosen the case of Nordhavn in Copenhagen. The former industrial harbour area is currently being refurbished and is called a 'lighthouse-project' for urban sustainability in Copenhagen (B&H, n.d.-a).

While the visions for Nordhavn puts emphasis on a holistic view on sustainability, local voices are raising concern about economic interests taking over, and that the project is not sticking to the original visions (Hutters, 2015; Kjeldtoft, 2016a; Weldingh, 2014). This indicates a difference in the actors' understanding of sustainability or changes throughout the process, which makes Nordhavn an interesting case to study.

This thesis builds on the assumption that to ensure urban sustainability it is necessary to understand how established planning processes and their embedded discourses shape the urban space currently. Flyvbjerg and Richardson (2002) advocates for a reorientation of studies of planning from 'what should be done' toward 'what is actually done'. 'In this way we may gain a better grasp - less idealistic, more grounded - of what planning is and what the strategies and tactics that may help change it for the better.' (Flyvbjerg & Richardson, 2002, p. 23).

Thus, this thesis aims to examine how divergent discourses that give meaning to sustainability shape the planning process of Nordhavn: Expressed in plans and policy documents, by main actors and in the construction of the urban space. The research questions are:

RQ1: What are the dominant discourses in urban planning in Copenhagen?

RQ2: How do these discourses shape the planning process of the urban sustainability project in Nordhavn?

The idea behind RQ1 is to understand the urban planning regime in Copenhagen, to contextualise the case of Nordhavn, while the idea behind RQ2 is to dig deeper into a concrete planning process for urban sustainability.

1.1 Relation to sustainability science

Cities are heavily influenced by sustainability goals (Bayulken & Huisingsh, 2015), therefore urban sustainability is an important part of sustainability science. This thesis relates to sustainability science by assessing how sustainability unfolds in a specific urban context. It questions the taken-for-granted solutions and understandings of sustainability already present and seeks to unravel and denaturalize these through discourse analysis. In this thesis, I look at sustainability through a planning and process perspective and contribute with my knowledge of the Danish planning system. I aim to assess how established institutional structures of urban planning and policymaking meet and interpret the concept of sustainability, and how this affects the built infrastructure and solutions in practice.

2 Setting the scene

As mentioned in the introduction, there is a significant focus on urban sustainability both in academia and politics. This section aims to briefly give an overview of the debate and development of this concept. The first section gives an overview of academic and political understandings and approaches to the concept 'sustainable city'. The second section looks at this concept in relation to Denmark, and the third and fourth sections describe the sustainability concept in the context of Copenhagen and Nordhavn as a case.

2.1 The concept of the sustainable city

The concept 'Sustainable City' (SC) is almost a direct urban derivative of the concept 'Sustainable Development', introduced in the Brundtland report in 1987. SC has especially gained popularity in the 90's i.e. because of the emphasis on the local authorities in 'Agenda21' from the UN conference in Rio 1992. For European countries, the Agenda21 was further elaborated through the Aalborg Charter in 1994 (Jong et al., 2015). The Charter especially focused on involving citizens and other actors in the decision making process towards more sustainable cities (CEC, 1994).

The most common understanding of SC is related to the idea of the triple bottom-line: a balance between economic, environmental and social dimensions (Yigitcanlar & Kamruzzaman, 2015). This is based on the belief that a higher quality of urban life can be achieved while also reducing the negative impact on natural resources (Jong et al., 2015). Some argue that SC ought to have more focus on the environmental angle, e.g. including emissions indicators, while others take a more socio-economic perspective, focusing on the value of greening living environments and increasing social equality (Jong et al., 2015). While concepts such as the green city, eco-city, low carbon city, resilient city and smart city are seen in the urban policy discourse, Sustainable City remains the most used term (Jong et al., 2015).

While cities often focus on sustainability in policies, many studies have documented a lack of success in the implementation of such policies and point out the imbalanced incorporation of the three dimensions of sustainability: economic, social and environmental (McLean & Borén, 2014). Allen (2009) even argues, that cities, by definition, are not sustainable, as they rely on their hinterland for resources.

Some scholars criticise the neglect of the social dimension (Moore & Bunce, 2009) resulting in 'ecological gentrification' (Dooling, 2009). Anderberg and Clark (2013) problematize how

sustainability initiatives are often just branding strategies aiming to attract capital investors. In regard to this, many problematize the role of neo-liberalisation and private actors in implementing cities' sustainability agendas (Brand, 2007; Bunce, 2009; Moore & Bunce, 2009; While, Jonas, & Gibbs, 2004). This debate is entwined with the debate on 'the right to the city' which reaches back to Henri Lefebvre's ideas from 1968, and focuses on the people's right to not only access but shape the urban space (Harvey, 2008). Anti-neoliberal scholars within the strand of critical urban theory such as Harvey (2008); Purcell (2002) Brenner (2009) and Marcuse (2009) advocate for radical and more revolutionary changes of society in order to create more democratic and equal cities.

Other scholars focus on the vagueness of Sustainable Development and SC as concepts and stress the need for tools and quality criteria (McLean & Borén, 2014). As a response to such concerns, Local Agenda21 and green building councils have a strong focus on developing regulation and design codes (Bayulken & Huisingh, 2015). Birkeland (2012) argue that many tools are problematic as they enable gains in one dimension to cancel out losses in others. Instead, she stresses the need for more holistic thinking e.g. through using concepts like circular metabolism or Cradle-to-cradle in urban planning (Birkeland, 2012). In relation to this debate, Reed (2007) argues for systems-thinking and a place-based approach instead of the traditional focus on technical and economic solutions.

In this thesis, I choose to focus on the planning process and its impact on sustainability. More specifically, I focus on how competing discourses influence the way the planning process for urban sustainability unfold and unmask what is taken for granted in the current institutional system.

2.2 Sustainable cities in Denmark

After the conferences in Rio and Aalborg, the Danish Ministry of Environment (MIM) published recommendations for city ecology in 1994, an action plan for city ecology was formulated in 1995, and a national centre of knowledge for city ecology was established (Pedersen, 2004). In 2000, the spatial planning law was amended and Local Agenda21-strategies became compulsory by law (Pedersen, 2004). In 2008, MIM published a document called 'The modern, sustainable city' recognising the cities' role in solving sustainability problems (MIM, 2008). The document emphasises the importance of site-specific solutions, suited for each particular Danish city, the benefit of a dense build environment, public transport and biking, climate change adaptation used for recreational purposes, green and blue structures, mixed residential and commercial buildings as well as citizens engagement (MIM, 2008). In 2012, an assessment from MIM reports that 63% of the 62 studied Danish municipalities were using sustainability as a brand, but only 8 municipalities (including Copenhagen) had a method to implement sustainability – however, each of these 8 municipalities

had their own distinct tool (MIM, 2012b). Based on this MIM reasoned that the municipalities lacked a common definition of what sustainability means in relation to local plans and the built environment and thereby published an inspiration catalogue for tools for sustainable cities in Denmark (MIM, 2013). In the inspiration catalogue, the definition of sustainable cities encompassed that economic growth and environmental protection need to go together. The document describes some of the sustainability tools for local plans already used in municipalities and explain how the Danish Green Building Council was working on a common Danish version of the German DGNB-certification scheme for sustainable urban districts (MIM, 2013). The scheme is tested through 4 urban districts, where one of them is a part of Nordhavn in Copenhagen (MIM, 2013).

In 2015, the Danish Ministry of City, Housing and Rural Districts published the report 'Sustainable Cities – social and green sustainable urban politics', where different cases were presented (MBBL, 2015). This report states: 'The government's urban sustainability politics is primarily about social and green sustainability. More precisely social and green sustainability, which can also have a positive effect on growth and employment and the preconditions for the good life'(MBBL, 2015, p. 8, own translation).

2.3 Sustainable Copenhagen

Copenhagen is the capital and biggest city of Denmark with a population of approx. 600.000 (DST - Statistikbanken, 2017). Copenhagen Municipality (CM) is part of several international and national networks for sustainable cities such as ICLEI, C40, Gate21 (C40 Cities, 2017; Gate21, n.d.; ICLEI, n.d.). In 2005, Copenhagen won the European Mobility Award and in 2014 the European Green Capital Award (ICLEI, n.d.). CM intends to be the first carbon-neutral city in the world by 2025 (CM, n.d.), and is well-known as a bike city.

The municipality has a local Agenda21-strategy 2016-2019 focused on energy use, mobility, consumption of resources and waste, climate change adaptation, green areas and sense of community (CM, 2016a).

2.4 The sustainable urban district: Nordhavn

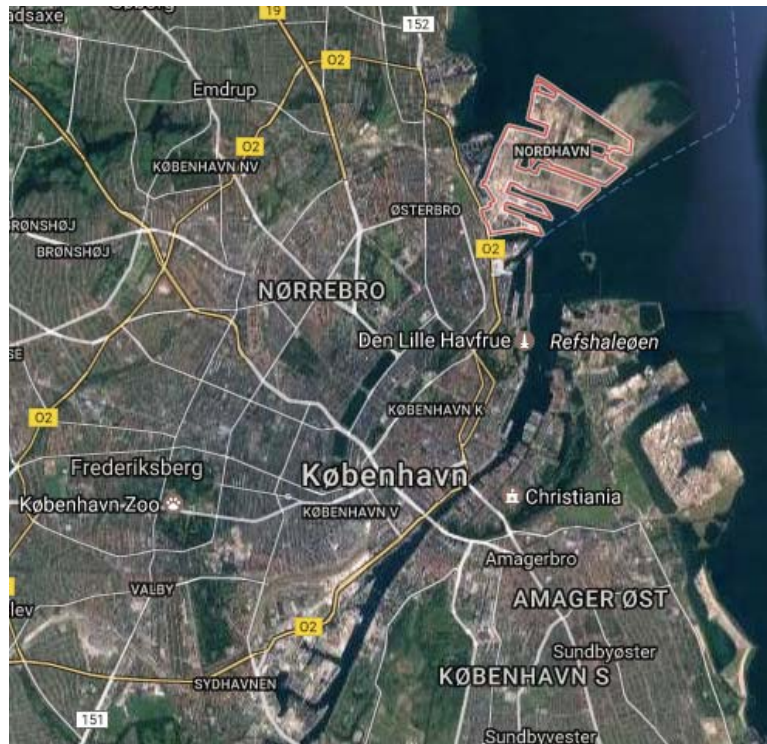


Figure 1: Map showing the location of Nordhavn (marked red) in Copenhagen (Google Maps, 2017)

Nordhavnen is a former industrial harbour in Copenhagen that is now being refurbished to house approximately 40.000 inhabitants and 40.000 jobs (B&H, 2012). The harbour district is a man-made peninsula located on the northeast coast of Copenhagen (see Figure 1) that has been extended over the last 150 years to meet the space required for harbour industry and shipping (B&H, 2012). Since the 1970's there has been a decrease in the industrial harbour activities with only half of the area now used for such activities (B&H, 2012). In 2007 it was decided to refurbish the district and it is currently under construction, with some parts already finished and inhabited.

The project is a sustainability lighthouse-project for CM that can inspire other urban regions, nationally and internationally, to implement sustainability in the built environment (B&H, n.d.-a). The strategy and visions for Nordhavn use phrases like 'The Sustainable City of the Future', 'Sustainable City, the Copenhagen Way', (B&H, 2012) and states that it is 'Probably the most ambitious metropolis development project in Scandinavia in the years to come'(B&H, 2009, p. 2). Additionally, part of the project is pre-certified with the best grade in the DGNB-certification for sustainable urban development (B&H, n.d.-a).

3 Theory

In this chapter, I will introduce the theoretical basis for the thesis, which includes discourse theory, Maarten A. Hajer's middle-range concepts of storyline and discourse coalition, and John S. Dryzek's 9 environmental discourse categorizations.

3.1 Discourse theory

The study of discourse comes from a social constructivist tradition and revolves around how society makes sense of certain phenomena. Discourses are understood as comprising a certain way of talking about and understanding the world, or an aspect of it (Jørgensen & Phillips, 2002). Hajer (1995) defines discourse as:

'A specific ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities' (Hajer, 1995, p. 44).

Discourses however, are not solely expressed, produced and reproduced through the way we talk, but also through actions, practices and the built space (Pugalis, 2009). Thus, taking a discursive stance does not mean neglecting the existence of physical objects, but the focus is on the meaning attached to them through discourses (Jørgensen & Phillips, 2002). In this thesis it means that physical structures (like buildings and infrastructure) are seen as the material outcome of discursive struggles throughout the planning process. Thus, the urban space is seen as formed through discourses, but also as having a role in forming discourses (Pugalis, 2009).

In this thesis, I seek to combine 'The argumentative approach' by Maarten A. Hajer (1995) with John S. Dryzek's (2013) categories of environmental discourses. The argumentative approach sees political processes as discursive struggles, where actors aim at gaining support for the way they define reality (Hajer, 1995). Hajer's (1995) approach thus focuses on the process, actors and how they shape discourses, while Dryzek offers an explanatory framework for categorising the discourses. Combining these two theories allows me to gain a more comprehensive understanding of the planning process for urban sustainability. In the following two subsections I introduce the two theories.

3.1.1 *The argumentative approach*

The 'argumentative approach' put forward by Maarten A. Hajer focuses on discursive interaction through the middle-range concepts of 'storyline' and 'discourse-coalition' that can help unravel how

discourses are maintained and transformed (Hajer, 1995). The planning process is therefore seen as a process of discursive argumentation, where some things are being argued for and other things are implicitly criticised through the same process (Hajer, 1993). The outcome depends on what happens when the differing discourses and attached meanings meet each other in argumentation, and which are the most persuasive to the actors, determined by credibility, acceptability and trust rather than its consistency alone (Hajer, 1995, p. 59).

The concept of **storyline** is understood as ‘a generative sort of narrative that allows actors to draw upon various discursive categories to give meaning to specific physical or social phenomena’ (Hajer, 1995, p. 56). A storyline can ensure a kind of synchronisation between a great variety of detached discourse elements in order to suggest a common understanding (Hajer, 1995). Therefore, finding the right storyline is an important political agency, and determines the interaction between social and physical realities. In this thesis, I will look at how the different storylines affect the planning process. Political change can be guided through the formation of new storylines, e.g. combining existing discourses in new ways (Hajer, 1995). Thereby, Hajer emphasises an active subject in discourse formation, but he also stresses that not all positioning in relation to storylines happens through active processes, but often rather passively through adhering to a certain understanding of what is common to say or do in a certain situation (Hajer, 1995). Therefore routinized discourses, used with little active consideration, are an expression of particularly effective power relations (Hajer, 1995).

The concept of **discourse-coalition** is understood as an ensemble of the following three:

- A set of storylines;
- The actors who express these storylines
- The practices in which this discursive activity is based (Hajer, 1995).

Discourse-coalitions are formed among actors attracted to the same storylines. These actors might however have different reasons for this attraction and might perceive their positions as different (Hajer, 1995). The storylines are in this regard seen as ‘the discursive cement that keeps a discourse-coalition together’ (Hajer, 1995, p. 65). Discourse-coalitions are formed if previously separate practices are actively related and gain meaning through a new shared political project and formation of a common discourse (Hajer, 1995). As discourse-coalitions are held together by a shared set of storylines rather than interests, the concept differs from the concept of political alliance (Hajer, 1995). As the reasoning and interests among the actors in a coalition can be differing, the political

power of a discourse (e.g. expressed through a policy document) is determined by its multi-interpretability rather than its consistency (Hajer, 1995).

3.1.2 Discourse categorizations

A storyline can combine different discourse categories, and one actor might adhere to one category in certain situations and another in other situations (Dryzek, 2013). While there are different ways to categorise environmental or sustainability discourses, I have chosen Dryzek's 9 types of environmental discourse outlined in his book 'The Politics of the Earth' (Dryzek, 2013) because it is a quite comprehensive outline.

1. Looming Tragedy: Limits, Boundaries, Survival:

The first of the 9 environmental discourses listed by Dryzek (2013), has its roots in the report 'The Limits to Growth' (Meadows, Meadows, Randers, & Behrens, 1972) and also includes the work on planetary boundaries by Rockström et al. (2009). The main reasoning behind this discourse is that a human made system (such as the economic system) are sub-systems to the eco-system of the earth, which means that there are limits or boundaries for these sub-systems to stay within in order to ensure survival.

2. Growth Unlimited: The Promethean Response:

The second discourse, the Promethean 'have unlimited confidence in the ability of humans and their technologies to overcome any problems – including environmental problems' (Dryzek, 2013, p. 52). Thus innovation and technology have a key role in this discourse, where some advocates argue for geo-engineering if this is most economically efficient. No limits are recognised and economic growth is seen as the precondition for being able to handle or adapt to environmental issues.

3. Leave it to the Experts: Administrative Rationalism

The 3rd is the first of 3 problem-solving discourses. This problem solving is assumed possible within the existing political system of industrial society. Administrative Rationalism is the dominant governmental response to the environmental crisis. It is assumed, that a global steering wheel exists, and the main instruments are top-down planning and regulation through standards and fines, as well as using analyses like cost-benefit-analysis, environmental impact assessment, risk assessment and technology assessment. This discourse is based on the premise that policy making is a matter of technical expert choice, and a faith in the 'welfare-maximizing virtues of government officials' (Dryzek, 2013, p. 86).

4. Leave it to the People: Democratic Pragmatism

This discourse, like the above, focuses on pragmatic rather than idealistic problem solving. The basic thought is that the knowledge needed for solving a problem (no matter its degree of complexity) cannot be centralised in the hands of the state or an individual. Problem solving in contrast 'should be a flexible process involving many voices, and cooperation across a plurality of perspectives' (Dryzek, 2013, p. 100), and is usually done through compromises among the involved actors.

5. Leave it to the Market: Economic Rationalism

The followers of this discourse believe that the market is the best and most efficient mechanism in the current societal system. Some followers believe in a free market with no government intervention (also regarding environmental issues), while others believe in market mechanisms implemented and managed by governments (e.g. through green taxes, eco-labelling or cap and trade systems). In contrast to the Prometheans (second discourse), economic rationalists recognise the existence of limited natural resources, which gives the basic rationale for creating private property rights.

6. Greener Growth: Sustainable Development

The Sustainable Development discourse argues that it is possible to achieve economic growth, ecological protection, social justice and intergenerational equity simultaneously, and therefore no painful changes are necessary (Dryzek, 2013). The discourse stems from the report 'Our Common Future' of the Brundtland Commission 1987 and the much-quoted definition of Sustainable Development: 'Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development, 1987, p. 16). Often the concept is defined through the 'three pillars': Social, environmental and economic dimensions. How Sustainable Development is implemented in practice is quite unclear, but it focuses on coordinated collective efforts ranging from the local to the global level (Dryzek, 2013).

7. Industrial Society and Beyond: Ecological Modernization

The basic idea of Ecological Modernization is decoupling economic growth from environmental stress – green growth (Dryzek, 2013). This discourse suggests a restructuring of the capitalist political system along more environmentally friendly lines, without changing the system completely.

Businesses have a central role because they can expect economic benefits. Cleaner production is generally seen as win-win because pollution is a sign of inefficiency and dealing with an environmental problem now or preventing it is cheaper than cleaning up later, when the issue might have multiplied (Dryzek, 2013). This discourse in contrast to the previous rarely mentions social justice (Dryzek, 2013).

8. Changing People: Green Consciousness

The 8th discourse is the first of two more green radical discourses. This discourse focuses on the need for a changed consciousness of the people, into one which is less destructive to nature (Dryzek, 2013). The different strands within this discourse are: Deep ecology, eco-feminism, bioregionalism, ecological citizenship, lifestyle greens and eco-theology.

9. New Society: Green Politics

The last of Dryzek's (2013) discourses focuses on radical system change, and points out, that the current ecological and social crisis 'can only be resolved through political action and structural change' (Dryzek, 2013, p. 218). This discourse does not oppose green consciousness as proposed by the 8th discourse but argues that it cannot solve the crisis alone (Dryzek, 2013).

The table in appendix A sums up the 9 discourses.

4 Methodology

This chapter will introduce the methodological approach, starting with ontology and epistemology, moving on to the research design and how the data is structured and collected.

4.1 Ontology and epistemology

This thesis takes a social constructivist stance, meaning that the social world and its categories are seen as constituted through social interaction and in a constant state of revision (Bryman, 2012). The constructivist ontology opposes the objectivist ontology, which in contrast sees social phenomena as existing 'outside' and independent of the influence of people (Bryman, 2012). In this thesis, it means that I see environmental discourses as given meaning and being constantly reshaped by the actors using them. I aim to assess the role of these different attached meanings and discursive struggles in shaping the planning process of urban sustainability.

Epistemologically I see the knowledge used in my analysis as constructed through interactions between the field and myself. This means, that I cannot see myself as an objective researcher, detached from the constructed data. Social constructivism is useful in this thesis because it offers me the right methodological tools and theories for assessing the planning process of urban sustainability.

4.2 Research design

To answer my research questions I have chosen a research design comprised of a case study of Nordhavn examined through a discourse-analysis.

4.2.1 Case study

To understand the complexity of the planning process towards urban sustainability, I have found it necessary to conduct an in-depth case study. As stressed by Flyvbjerg: 'the advantage of the case study is that it can 'close in' on real-life situations and test views directly in relation to phenomena as they unfold in practice' (Flyvbjerg, 2006, p. 235). This is exactly the purpose of this study, as I assess the process of implementing sustainability through the urban planning system and its embedded discourses as it unfolds.

Nordhavn represents an exemplary case of a planning process from vision to implementation of urban sustainability in a newly built area within the current planning system in Copenhagen. This

particular case is chosen because it is a lighthouse-project for urban sustainability in Copenhagen, which is known around the world for its sustainability initiatives.

4.2.2 Discourse analysis

Discourse analysis is a complete package of both theoretical and methodological foundation as well as an analytical method (Jørgensen & Phillips, 2002). Therefore, doing a discourse analysis includes adhering to discourse theory and constructivism explained earlier. Discourse analysis considers the strategic way policies are framed (Szarka, 2004), and seeks to uncover ‘the hidden seams, reveal the contours of individual discourses and identify the dynamics of interaction between the actors who originate them’ (Szarka, 2004, p. 318). Detecting regularities and irregularities in the discourse is thereby an important part of the analysis (Hajer, 1995).

The value of discourse analysis is that it helps clarify the way discourse becomes a means to political action (Szarka, 2004). Often discourses, which are understandings of the world, are not perceived as understandings but as *the world* (Jørgensen & Phillips, 2002). Therefore, an important purpose of discourse analysis is ‘to unmask and delineate taken-for-granted, common-sense understandings, transforming them into potential objects for discussion and criticism and, thus, open to change’ (Jørgensen & Phillips, 2002, chap.6, p.5). As taken-for-granted-ness limits the range of political possibilities, the unmasking can open up for alternative possibilities (Jørgensen & Phillips, 2002)

4.3 Structuring data

The structuration of data has been divided into the following sub-processes:

- 1) Lining out the most dominant discourses within urban planning in Copenhagen (answering RQ1).
- 2) Creating an outline of the planning process of Nordhavn from 2005-2017 and what determining discourses are in this process (RQ2)

4.4 Methods for data collection

The RQ’s will be answered through discourse-analysis using a combination of documents and interviews. Documents enable insight into previously expressed discourses. However, official documents will often not express the conflict or discursive struggles potentially present when creating the documents (Flyvbjerg, 1998). The interviews thus supplement the documents with the actors’ present view and more detailed insight into the planning process.

4.4.1 Documents

Location of documents in relation to urban planning in CM and Nordhavn was done through different official websites, mainly: www.nordhavnen.dk¹, www.kk.dk², www.blievhoert.kk.dk³, www.retsinformation.dk⁴ and www.hoeringsportalen.dk⁵. List of documents can be seen in appendix B. In addition, I have followed the debate on Nordhavn in local and national newspapers as well as through local politicians' social media channels and email newsletters on Nordhavn from By & Havn (B&H).

The documents on a blue background in the table in appendix B (municipal plans CM) contain the official discourses expressed by CM, which serve as a basis for answering RQ1. In relation to answering RQ2 the documents on a white background serve as a basis for detecting development and change, and how dilemmas between the discourses occur along the planning process of Nordhavn.

4.4.2 Interviews

I have conducted 5 interviews with different actors to detect the spoken discourses. The interviews have been carried out using semi-structured interview-guides, enabling me to steer the interviews in certain directions, while allowing new perspectives to be further explored (Kvale & Brinkmann, 2009). The actors were chosen to represent different sectors: public, private and civil society. See list and description of interviewees in appendix C.

A clear limitation was barriers in gaining information on CM's reflections throughout the planning process, as the municipal planner involved in many of the previously developed local plans no longer worked in the municipality and was not accessible.

The interview-guides have been adapted to the different actors in relation to their role and responsibility in the project but revolved around some of the same themes.

According to Kvale and Brinkmann (2009) interviews for discourse analysis are as much focused on variation in the answers as consistency. It is therefore important to allow differing answers, which

¹ Official website concerning the project in Nordhavnen, administered by B&H

² Website of CM

³ Official portal for public hearings for CM

⁴ Website gathering all Danish laws and amendments to laws

⁵ Official Danish portal for public hearings on laws

can often lead to a more informal conversation-like form (Kvale & Brinkmann, 2009). I inevitably represent a discourse as a researcher and interviewer. Thereby, I engage in the social interaction that impacts the discourse of the interviewee and the outcome of the interviews. However, I have sought to focus on the elaboration of what was expressed by the interviewee, as well as delimit leading questions.

4 interviews were conducted through personal attendance, in Danish, recorded and transcribed. Quotes used for the analysis have been translated into English. The 5th interview with a citizen from Nordhavn was conducted over the phone, and the interviewee subsequently confirmed main points used in the thesis.

5 Analysis and discussion

Based on the described theories and methods, this chapter will present, analyse and discuss the data. The first part (5.1) assesses the dominant discourses in urban planning in Copenhagen and the inherent contradictions to understand the context of Nordhavn. The second part (5.2) assesses the case of Nordhavn: the discourses detected throughout the planning process as well as contestations between them.

5.1 Dominant discourses in urban planning in Copenhagen

This first section aims to answer RQ1 and delve into the storyline of the administrative regime of urban planning in Copenhagen. The main actors within this regime are CM and the property development company B&H, and the most dominant discourses detected are: Administrative Rationalism, Democratic Pragmatism, Economic Rationalism, Ecological Modernization and Sustainable Development. First I introduce how each discourse is expressed, and then I discuss how they are combined and related to each other, as well as the implications of this combination.

5.1.1 *Administrative Rationalism*

The Danish spatial planning system in general, and therefore also urban planning in Copenhagen, has its base in an institutionalised form of the Administrative Rationalist discourse (AR). The system is based on a hierarchical but decentralised administration through the spatial planning law, which poses detailed descriptions of the responsibilities of the state, regions and municipalities as authorities (MIM, 2012a). The municipalities have a strong mandate in deciding the form of the urban space through local plans – from the use of the area and overall structure, down to the colour of facades and size of buildings (MIM, 2012a). Tools like environmental assessments and traffic analyses also play an important role when planning bigger urban areas (MIM, 2012a). The administrative system thus reflects a strong belief in the municipal officials' 'welfare-maximizing virtues' (Dryzek, 2013, p. 86). It also expresses the belief that the municipal politicians, backed up by analyses and expert knowledge are able to take the right decisions in terms of creating good urban spaces, through setting frames and restrictions for citizens and companies to act within. AR therefore, is a powerful discourse in the Danish planning system in general.

5.1.2 Democratic Pragmatism

Since the 1990's the focus in the Danish planning system has shifted from a strong government (and AR) towards governance and network-based planning, like in many other European countries (Sehested, 2003). The emergent governance, however looks slightly different in Denmark than e.g. the UK, as it plays out 'in the shadow' of the hierarchical administrative system described above (Sehested, 2003). Public hearings on many municipal policies are required by law, where actors can comment on them through written hearing statements (MIM, 2012a). This type of institutionalized hearing process is part of Dryzek's (2013) Democratic Pragmatist discourse (DP), but as the municipalities are only obliged to consider the comments, and not to act on them (LBK nr 1529, 2015), it can result in what Dryzek calls 'mere symbolism'(2013, p. 101). However, DP and the governance focus is also seen through an increase in different initiatives such as citizens or user councils, inclusion of organisations and private corporations etc. (Sehested, 2003). Including Agenda21 in the national spatial planning law expresses institutionalisation of a stronger form of DP than the public hearings and requires the municipalities to have a strategy for involving the citizens when working with environmental issues (CM, 2016a). CM's current Agenda21-strategy focuses on 'Copenhageners possibility of being involved and become co-creators in the development'(CM, 2016a, p. 3, own translation). This aim is to be achieved through different events fostering citizen engagement and partnerships with local organisations (CM, 2016a), thus engaging actors in an earlier stage of the planning process. Apart from DP, CM's Agenda21-strategy also expresses the Sustainable Development discourse (see 5.1.5).

5.1.3 Economic Rationalism

Like in many other European countries, cities in Denmark are seen as drivers for growth. Since 1990 there has been a particular focus on Copenhagen as a growth centre for the whole country (Sehested, 2003). This means that it becomes a national political priority to ensure that Copenhagen is 'put on the map' globally; to attract investors (Sehested, 2003). Since 2001 there additionally has been a growing pressure from the Danish government to increase the economic efficiency in the municipalities regarding different administrative areas, leading to privatisation of different public entities (J. S. Jensen, Lauridsen, Fratini, & Hoffmann, 2015). In 2015, the administrative responsibility for the spatial planning law was moved from the Ministry of Environment to the Danish Ministry of Industry, Business and Financial Affairs (MIM, 2015). These changes represent a belief in market rationality in its broad sense, but affect the way solving environmental issues and implementation of urban sustainability is framed.

Both K from B&H and T from CM express the narrative that CM was near bankruptcy in the 1990's (Interview,B&H; Interview,CM). K tells how the municipality experienced inadequacy in terms of maintaining the city, because of resourceful citizens moving out which lowered the tax-base (Interview,B&H). This situation led to the creation of B&H in 2007 (initially called 'The property development company'). The company is owned by CM and the Danish State and 'should be operated on a commercial basis' (LOV nr 551, 2007). The idea behind this was according to K to 'create a professional actor, which can create a property development, generating the economic growth needed for the city's economy to turn around'(Interview,B&H). This narrative based on Economic Rationalism (ER), have been powerful enough for the state and CM to form a new institution with the purpose of profit maximisation through property sale.

However, ER is not only convincing actors in regard to branding and generating economic growth in the city. The latest municipal plan from 2015 acknowledges that housing prices in Copenhagen have become too expensive, which is conflicting with the ideal of Copenhagen being for all citizens. The plan proposes that 'housing enough for all will moderate the increase in prices' which means 'the housing supply in Copenhagen should match the demand' (CM, 2015a, p. 12, own translation). Therefore, it is assumed that if construction is encouraged, social sustainability will be reached through market regulation.

5.1.4 Ecological Modernization

The Ecological Modernization discourse (EM) takes a central role in Copenhagen like it does in many other European cities. EM creates a way to combine economic rationality with a focus on environmental protection (Dryzek, 2013). The municipal plans for Copenhagen from 2007-2015 all express a combination of the EM and the Sustainable Development discourse, where EM is seen in the focus on green and effective technologies in the energy sector as well as greener transport. The EM discourse is especially strong in the municipal plans 2010-11 with the heading 'green growth and life quality'(CM, 2010a, 2011). Here it is emphasised that implementation will happen through 'partnerships with knowledge institutions and companies about green solutions and attracting investments to Copenhagen. This will contribute to local growth and new jobs, while Copenhagen's climate goals are reached simultaneously'(CM, 2010a, p. 21). Thus, the branding of Copenhagen through its green initiatives becomes a mean in solving the financial issues described in section 5.1.3.

CM's climate plan from 2012 also expresses EM through promoting 'green growth', with a focus on reducing CO₂-emissions through 'finding solutions that are smarter, greener, healthier and more

profitable'(CM, 2012b, p. 5). Also here the focus on green energy and mobility is emphasised. This agenda is seen as providing 'positive effects on Copenhageners' lives generally'(CM, 2012b, p. 5).

5.1.5 Sustainable Development

The influence of the Sustainable Development discourse (SD) on both urban planning in Denmark and Copenhagen is clear. The influence is seen in the municipal plans. CM's Agenda21-strategy, naturally expresses SD, as it stems from the UN conference in Rio, which follows this discourse. The strategy notes that it adheres to 'a holistic sustainability concept, where environmental and climate sustainability are not assessed in isolation, but is put in relation to social and economic sustainability, both locally and globally and in relation to future generations' (CM, 2016a, p. 7).

'Social, economic and environmental' sustainability is mentioned in many of the municipal plans from 2009 onwards (CM, 2009a, 2011, 2014, 2015a), but also that these three aspects 'go hand in hand'(CM, 2011) or support each other (CM, 2014, 2015a). However, the three aspects are often split up and fulfilled through separated initiatives, which is against the holistic thought of SD. In all of the municipal plans since 2007 'sustainability' is exemplified through implementing cost-efficient green technologies and modes of mobility, ensuring green growth through creating optimal conditions for, and incentivising business and citizens (EM). Ensuring 'social sustainability', 'social diversity' or 'A city for all', is proposed through housing policies (sufficient amounts, different types, prices and sizes of housing) as well as establishing attractive, green and recreational urban spaces (CM, 2007, 2009a, 2010a, 2011, 2014, 2015a).

Additionally, CM has its own assessment tool for sustainable urban development focused on sustainability on planning level and addressing project developers (CM, 2012a). The tool includes 14 themes distributed on the three sustainability pillars:

- Environmental: Land-use, transport, energy, water, resource-flows.
- Social: Green and blue areas, social diversity, urban space, urban life and identity.
- Economy: Business and service, municipal economy, project economy and long-term durability. (CM, 2012a).

The tool is an attempt to institutionalise SD, however, the interpretation of what SD entails is done through AR.

The DGNB-certification scheme is another tool that tries to operationalize SD through AR. As indicated in section 2.2, the use of a Danish version of this scheme is part of a national strategy for

ensuring more sustainable urban development. The guide on DGNB for urban districts in Denmark explains that the scheme consists of 45 criteria distributed on 5 quality-themes, 3 of the based on the Rio-declaration (environmental, economic and social quality) and the 2 supplementary being technical- and process quality (DK-GBC, 2016). It tries to keep a 'holistic view on sustainability' and balance all the aspects. There is a minimum score for each of the themes (DK-GBC, 2016), which means they are partly but not completely substitutable. The scheme draws on AR, as it is a tool for authorities to steer the planning process, breaks SD into manageable criteria and uses measuring tools such as cost-benefit and life-cycle-assessment. Most criteria are translated into features that can be implemented by the authorities, focused on green technologies and architectural features. What is sustainable or good planning is pre-defined by the experts behind the certification scheme. B&H and CM are both members of the Danish council that operates the certification scheme (DK-GBC, 2017).

5.1.6 Discussion of the overall storyline

To revisit Hajer, a storyline can consist of a great variety of elements from different discourses, to shape a common understanding or political project (1995). The general storyline for urban planning in Copenhagen draws on elements from all the above 5 discourses. In a simplified outline, the storyline consists of the assumptions and arguments that:

- ...Economic, environmental and social sustainability are all important and need to go hand in hand
- ...Implementing economic, environmental and social sustainability can be done through ensuring economic growth, encouraging *green* growth through green technologies and innovation and ensuring attractive urban spaces and housing for all.
- ...Tools operationalizing SD through concrete administrative initiatives are useful to implement the above.
- ...Regulated market forces are effective in implementation and turning Copenhagen's economy around
- ...Citizens and other actors are valuable to include in the decision-making process
- ...The authorities have the last say and know when to rely on market forces, when to ask the citizens and when to take decisions based on their own expertise.

In the combination of the 5 discourses, the three more pragmatic discourses ER, AR and DP comprise the established institutionalised planning frame for Copenhagen, where EM and SD are ways to

integrate sustainability in this frame. The established planning frame for Copenhagen combining ER, AR and DP will be called 'the pragmatic paradigm' henceforth.

The common political project, this storyline supports, is to ensure a greener city (physically and technologically) for all people through economic growth including private and public sectors as well as civil society in decision-making. If the premise of the storyline is accepted, this means, that many interests can be met simultaneously, making it hard to disagree with the storyline as a whole. As Hajer points out, a discourse has more success in gaining political power if there are many possible ways to interpret it, as this potentially enables many differing actors to agree on it (1995). In this case, different actors have the possibility to focus more on the points of the storyline they agree with, and less on the ones they do not. Thus, the broadness of the storyline enables inclusion of many actors in the 'discourse coalition', which as we recall consist of a group of actors adhering to the same storyline, and acting according to it (Hajer, 1995).

However, there are some major contradictions within this general storyline. While there are contradictions between the core principles of the three discourses in the pragmatic paradigm, it is chosen to focus on the contradictions in relation to EM and SD here, in order to see how sustainability is carried out in practice. The two contradictions in focus are:

1) Trade-offs vs. no trade-offs: SD is mostly detected in the bold statements about the visions for the city, and these visions follow the logic that trade-offs and prioritisation between social, economic and environmental sustainability are unnecessary as win-win-win solutions are possible. At the same time, the proposal to implement the three aspects through separate initiatives conflict with the holistic idea of SD.

CM's own sustainability tool and the DGNB-scheme aim to keep a balance between the three aspects. The DGNB-scheme seeks to target a broad variety of actors within the building sector (including investors) and combine a short-term pragmatic perspective and a more visionary perspective related to SD. However, the way the scheme is operationalized is, like in many of the plans, to split the three sustainability aspects up and ensure their implementation through separate initiatives. The scheme thus builds on the idea that trade-offs between the three aspects are very likely to occur.

The above reflects a discussion often seen in the literature on SD, about its ambiguity and whether it does or should recognise trade-offs (Birkeland, 2012; Connelly, 2007; Hopwood, Mellor, & O'Brien, 2005). As Dryzek (2013) writes himself the implementation measures for SD are not completely

clear, and some scholars note that the concept is unproblematic in theory but impossible to implement in practice (Connelly, 2007). This contradiction leads to the next:

2) Equal importance vs. economic prerequisite: In the separation of the three sustainability aspects in the municipal plans, economic growth gains more emphasis. The assumption is that economic growth is the precondition for economic, environmental and social sustainability. In this way, EM and ER replace SD in the proposed initiatives, and the three sustainability aspects no longer have equal importance.

As concluded before by Anderberg and Clark (2013) EM serves an important purpose in branding Copenhagen and ensuring that the city stays a driver for growth. The form EM takes in the municipal plans, seeing economic growth as a precondition for environmental and social quality, means that there is implicitly an argument against environmental or social initiatives, which are not contributing to growth or expensive to implement. This means that the 'no-trade-offs' mentality is still partly present in the search for win-win initiatives, with one of the 'wins' being economic growth.

EM is often seen as the dominant way of implementing sustainability in urban planning (McLean & Borén, 2014). In contrast to SD, it is therefore often seen as a success in practice (Mol, 2006). Some scholars however, problematize the use of EM, as equity and democratic principles are not considered (Bayulken & Huisingsh, 2015).

The identified contradictions could result in the general storyline for Copenhagen losing political power because it does not provide sufficient reasoning and therefore fails to form the needed discourse coalitions. However, as Hajer (1995) points out the broadness and multi-interpretability of a storyline play a bigger role in gathering actors to form discourse coalitions, than consistency does. So the political power of the storyline is highly dependent on how the actors perceive it.

Coalitions are not only formed by storylines and the actors adhering to them, but also by the actions made based on their rationality. To assess the coalitions formed and how actors act according to the storyline in relation to implementing urban sustainability, the following section dives into the planning process of Nordhavn.

5.2 Case of Nordhavn

In CM's municipal plans, Nordhavn is mentioned as central for creating investments and economic growth in Copenhagen. In addition, Nordhavn is described as a sustainable district, where the environment will have high priority and the regular Copenhagener gains access to the water (CM,

2007). The aim is that Nordhavn provides an international model for sustainable urban development (CM, 2009a). Thus, Nordhavn provides a case for Copenhagen to show the world that sustainable urban development can work in practice. In the following sections, I will outline how the planning process of Nordhavn unfolds, and which discourses were determining in the decisions. This is done to see how the general storyline for Copenhagen further develops, how its inherent contradictions are handled, how discourse coalitions are formed and how it shapes the urban space. After outlining the planning process I will expand on the above discussion on the storyline, going into how the two identified contradictions are handled in practice.

5.2.1 The planning process

The timeline for the planning process of Nordhavn can be divided into 6 phases as described in Table 1. The table gives an overview of the approximate timeframe for the phases, what they include, and the main determining discourses for the decisions taken in each phase. The following sections elaborate on the 6 phases.

Table 1: The 6 identified phases for the planning process of Nordhavn and the determining discourses for the decisions taken.

Period	Phase		Determining discourses
2005-2008	1	Idea Visions	Economic Rationalism Democratic Pragmatism, Sustainable Development
2009	2	Strategy	Sustainable Development
2009-2011	3	Preparing the area: Nordhavn road Expansion, cruise ship- and container-terminal	Pragmatic paradigm (economic focus)
2010-2015	4	Initial local plans	Pragmatic paradigm (economic and administrative focus), Ecological Modernization

2014-2016	5	Changes to local plans	Pragmatic paradigm (economic focus)
2015-2017	6	Moving in	Pragmatic paradigm, Ecological Modernization, Sustainable Development

Phase 1: Idea and visions

The idea behind developing Nordhavn was part of the strategy for turning Copenhagen's economy around through property development. The sales of the properties owned and developed by B&H (including Nordhavn) funds the construction of the new metro-ring in Copenhagen. In order for the Metro Company to be able to act independently, B&H prepaid the metro and was therefore founded in debt (B&H, n.d.-b). Therefore, 'the company must maximise value creation and work to repay the debt, which the company was established with'(B&H, n.d.-b). The decision to start urban development in Nordhavn was therefore based on ER. The idea was that developing Nordhavn was the ideal way to adapt to the predicted increase in citizens in Copenhagen and ensure more housing (B&H, 2008).

In order to begin the development, B&H and CM held a citizens and actor consultation, based on which a brief for an international architectural competition was published in 2008 (B&H, 2008). The visions for Nordhavn, which were included in the brief, were thus based on the rationalities behind DP, and the idea that citizens and actors should be part of shaping the future urban space.

The visions for Nordhavn have clear similarities with SD:

'Creating a sustainable city is not only a matter of environmental responsibility, but also of social diversity and the addition of value' (B&H, 2008, p. 11)

'Nordhavnen is intended to show to the world how we here in Copenhagen allow growth and sustainable urban development to go hand in hand' (B&H, 2008, p. 12).

It is presupposed that it is possible to achieve growth, environmental responsibility and social diversity simultaneously, like the principles behind SD. It is indicated that there is a way, in which there is no need for trade-offs or prioritisation between the different aspects, and in fact, Copenhagen has already found it. Copenhagen then needs the example of Nordhavn to show the world how it is done.

The vision puts forward 6 themes, which interprets what 'The Sustainable City of the Future' entails (see Figure 2) (B&H, 2008).

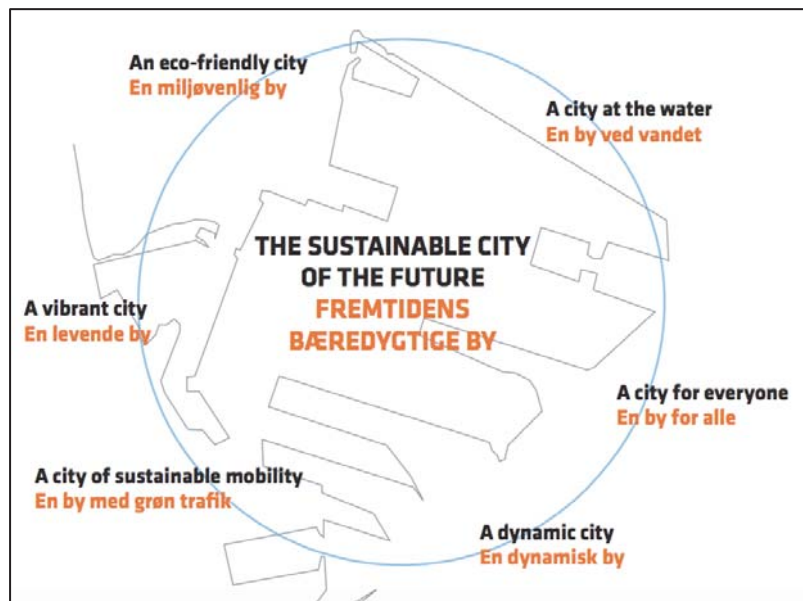


Figure 2: Visions for Nordhavn (B&H, 2008, p. 10)

Phase 2: Strategy (winning proposal)

In 2009 a strategy document and structure plan (see Figure 3) was made based on the winning architectural proposal (B&H, 2009). Statements in the strategy express SD and are quite similar to those in the vision:

'As an urban development project, Nordhavnen spearheads efforts to improve climate conditions and show how cities can help reverse climate change without losing out on quality of life, welfare and democracy.'(B&H, 2009, p. 2)



Figure 3: Winning structure plan for Nordhavn (B&H, 2009, p. 15)

The strategy builds on another 6 themes (see Figure 4), which according to the document match the 6 themes in the vision (B&H, 2009).



Figure 4: The 6 themes in the strategy (B&H, 2009, p. 21)

The finalists among the architectural proposals were assessed using CM's own sustainability tool (see section 5.1.5), before an expert committee selected the winner.

The vision and strategy phases are in line with certain points in the general storyline for urban planning in Copenhagen as it expresses the 'no-trade-offs' SD discourse as an overall vision for the project, and the combination of ER, DP and AR reflects the pragmatic paradigm. Throughout the interviews, the actors generally supported the vision and strategy.

Phase 3: Preparing the area

In 2009 preparatory work started for the urban development in Nordhavn. This consisted of planning a four-lane road connection from the nearest highway to Nordhavn (see Figure 5), as well as expanding Nordhavn further into the sea through filling in soil from the metro-construction and moving the cruise ship terminal to this area (see Figure 6). The preparatory work consisted of environmental assessments, various plans and amendments along with public hearings. CM generally answered the hearing statements which were opposing these two projects with the rationale that the development in Nordhavn would not be possible without them, and that they were part of the initial agreement between the state and CM (CM, 2009b, 2010b). This indicates that what was up for public debate was not *whether* these projects should be implemented, but rather *in what way*.

The choice of building a road was based on the public authorities' expert opinion, while expansion was based on the rationale that this is both the easiest, most cost-efficient and environmentally friendly way to handle the excess soil from the metro-construction (CM, 2010c). Moving the cruise ship terminal out was based on rules for noise-levels close to housing and the wish to keep a cruise ship terminal in Copenhagen because of its economic benefits (CM, 2009d).



Figure 5: Suggestions for road access and tunnel from highway to Nordhavn (CM, 2009c, p. 8)

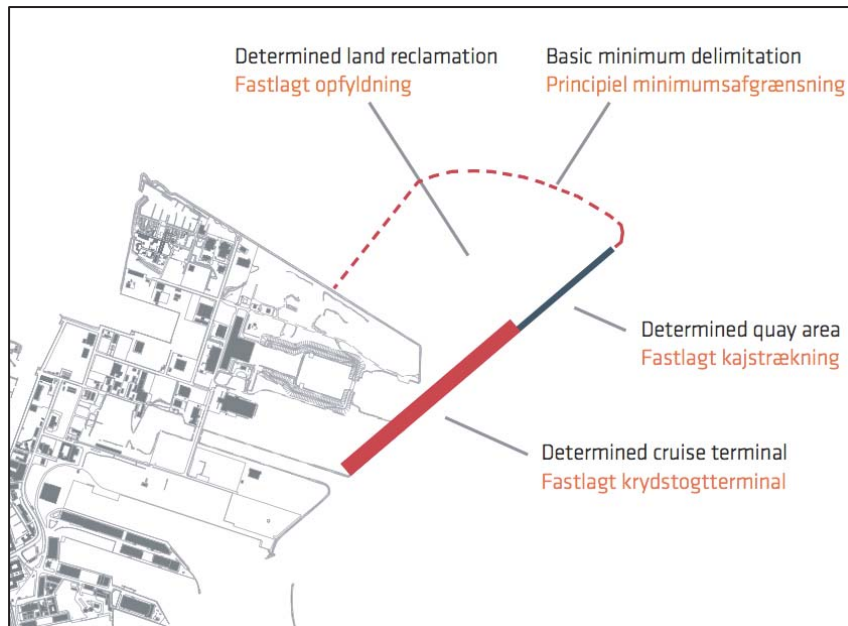


Figure 6: Planned structure for expansion and cruise ship-terminal (B&H, 2008, p. 45)

In addition to these projects, a law in 2011 allowed moving the container-terminal (see current location in appendix D) to the expanded area on the tip of Nordhavn (see Figure 7) (LOV nr 632, 2011). The brief for the architectural competition stated that the existing container-terminal was supposed to close down and relocate within ten years that the relocation could be in outer Nordhavn, but not for a period exceeding 50 years. This meant that location of a container-terminal was not a demand for the architectural proposals (B&H, 2008).

The decision in 2011 to relocate the container-terminal to outer Nordhavn was based on the rationale that the urban development could not proceed if the container-terminal stayed, because of noise pollution assessments, as well as the wish to keep the industries related to the container-terminal in Copenhagen (Grontmij Carl Bro, 2011).



Figure 7: Possible relocation of container-terminal (Seen from north-west) (Grontmij Carl Bro, 2011, p. 7)

Proposing the decision by law supersedes a range of different permissions and plans (LOV nr 632, 2011), and therefore, also the public hearing processes associated with these. However, in the hearing process for the law, a local citizen's group Østerbro Harbour Committee (ØHC) complained that it:

'goes against (...) the intentions in the international ideas competitions (...) which were to ensure that the development in Nordhavn was characterised by sustainability, possibilities for all, green traffic and an environment by the sea. The winning proposal (...) will be almost impossible to implement with the proposed location of the new big container-terminal' (ØHC, 2011, pp. 1-2).

In an interview, the chairperson explains how it is a shame that the container-terminal will restrict the Copenhageners from accessing wild nature, which was part of the winning architectural proposal (Interview, ØHC).

In this phase, the pragmatic paradigm within the general storyline for Copenhagen unfolds in practice. In the practical decision making AR and ER gain more focus than DP does. The decisions are conflicting with the way locals perceive the visions they took part in making. The administrative actors see their decision to relocate the container-terminal as the only reasonable choice and do not explicitly recognise it as a trade-off where the nature-area is a lower priority. In contrast, ØHC sees the decision as a trade-off so big that it undermines the vision for the urban development. A

consequence of this clash is that the actor ØHC starts to mistrust the general storyline, which leads to critique throughout the rest of the planning process.

Phase 4: Initial local plans

From 2010, the more detailed plans for the built environment began being published. These included an initial report for the neighbourhood Århusgadekvarteret (2010), a description of Århusgadekvarteret 'from idea to project' (2012) and legally binding local plans for the 5 neighbourhoods: Århusgadekvarteret (2011), Århusgadekvarteret vest (2013), Trælstholmen (2013), Levantkaj vest (2013) and Sundmolen (2015) (see location in Figure 8).



Figure 8: Map of neighbourhoods in Nordhavn. Based on: (CM, 2013c, p. 3)



Figure 9-Figure 13 show the building plans for the 5 neighbourhoods.



Figure 9: Building plan of Århusgadekvarteret. Numbers mark: 1) 'The green loop', with a bike lane and path for the metro line, 2) The main shopping street 'Århusgade' connecting with Østerbro in the west, 3) 'Sandkaj' the recreational harbour promenade, 4) 'Redmolen' business, housing, urban space open to the public and audience attractor 5) 'Kronløbsøen', an island with housing and parking-facilities 6) 'Lommevandrummet', for water sport activities. (CM, 2015c, p. 5)



Figure 10: Building plan for Århusgadekvarteret vest. Numbers mark: 1) Metro-station with bike parking, 2) The 'green loop' with metro and bike lane, 3) Tall building, 4) Extension to PFA⁶ building (CM, 2013d, p. 5)

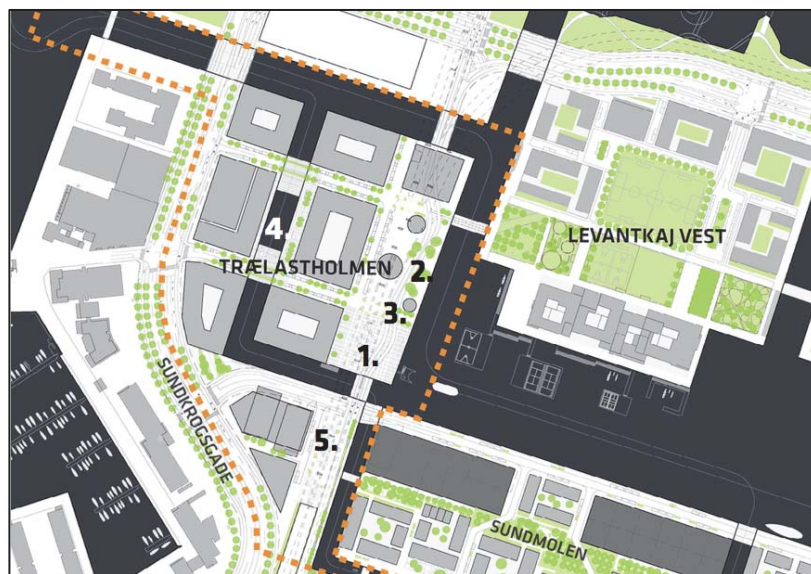


Figure 11: Building plan for Trælastholmen. Numbers mark: 1) Metro-station 'Orientkaj', 2) 'The green loop', 3) Urban square: 'Trælastkaj', with bike parking, access to the metro, trees and a recreational space facing the water, 4) Urban space: 'Kanalrummet', with recreational spots and access to the water, 5) Urban space with sport facilities, activities and vegetation (CM, 2013c, p. 5)

⁶ PFA is a Danish pension fund with its headquarters based in Nordhavn



Figure 12: Building plan for Levantkaj Vest. Numbers mark: 1) New building for Copenhagen International School with roof top gardens, 2) Park, 3) building plots for possible new buildings, 4) Green area by the sea (CM, 2013b, p. 5)



Figure 13: The building plan for Sundmolen. Numbers mark: 1) Green areas, 2) Urban space: 'Ved Lommevandrummet', with a view of the sea 3) Urban space: 'Kanalpladsen', with access to the water, 4) Urban space: 'Udsigtspladsen' with panorama view over the ocean and 5) Harbour promenades (CM, 2015b, p. 5)

There is a strong focus in all 5 local plans on keeping the cultural heritage of the area through reusing old industrial buildings. One of these buildings is a former grain silo 'The Silo' in Århusgadekvarteret, which is to be used for cultural purposes. While Århusgadekvarteret and Sundmolen are meant for a mix of housing and business, Trælastkaj and Århusgade Vest are meant for business purposes. Some public hearings express concerns that there is too much focus on business, that the buildings are too

tall, that the apartments will get too expensive, and that this is a reflection of economic interests being favoured (CM, 2013a; ØHC, 2013).

Generally, the 5 local plans represent AR, in that they set up a framework of rules and regulations for the private sector and citizens to act within. The framework is based on experts' translation of the visions from the citizen and actor consultation. The plans were also checked through CM's sustainability tool, and some of them demand DGNB building-certification. Each local plan has a section on sustainability, where the neighbourhood is shortly described in terms of its transport modes, certification, energy supply, garbage handling system, city life, contact to water, green space, water use and handling as well as climate change adaptation. Sustainability is thus interpreted as a combination of green technologies (EM) and general qualities in the urban space, defined by the planners. The main reason behind the local plan for Århusgade Vest is the expansion of the headquarters for PFA, which is a big investor in buildings in Nordhavn. Therefore ER is a determining discourse as well, which can be seen as an attempt to adapt to PFA to form a discourse coalition.

Apart from the pragmatic paradigm, with the main focus on AR and ER, the means to ensure urban sustainability is primarily found through EM. This approach is a way to handle the second contradiction in the general storyline identified in 5.1.6 and an attempt to ensure a balance between the social, environmental and economic aspect.

Phase 5: Changes to local plans

After the initial local plans described above, there have subsequently been different changes to these. This section will outline the two most central ones: The Silo and the PFA-building at Redmolen (another one than the building described above).

The Silo

Through an amendment to the local plan for Århusgadekvarteret in 2015, the purpose of 'The Silo' was changed from public cultural activities to business and apartments (CM, 2015c). The reasoning in the amendment is:

'Since the local plan was published there has been a big demand for housing in the many small building plots in the neighbourhood. The amendment to the local plan, therefore, seeks the answer to this demand and simultaneously ensure that the wish to keep and refurbish the existing silo building is met (...) the aim of the amendment is to enable using the silo for housing and business' (CM, 2015c, p. 61, own translation).

The silo still has to include public and audience oriented functions in the bottom and in an extension on the roof (CM, 2015c). The silo before rebuilding and the planned design can be seen in Figure 14.

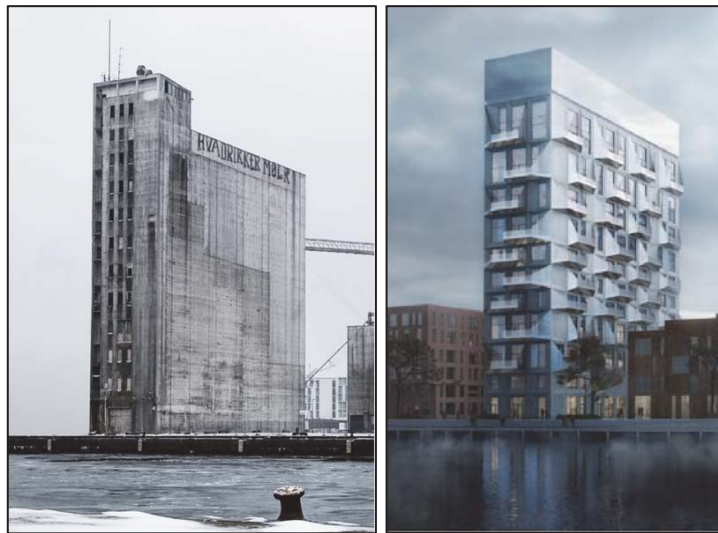


Figure 14: ‘The Silo’, before rebuilding (left) and after (right) (COBE, n.d., pp. 2, 3)

According to the property developer, who owns the building, the plans for using The Silo exclusively for cultural purposes was not thought through by CM and B&H:

‘it [The Silo red.] consisted of a lot of cylindrical cement pipes inside from ceiling to bottom (...) there was nothing of use inside(...) no floors (...) it would cost 500 million to make, how would we ever accrued that amount of money from making some kind of cultural centre?’(Interview,PropertyDev).

Some of the public hearing statements express a worry over lack of cultural functions in the area as well as the possibility of the area becoming a rich-people’s ghetto. In 2015, the building had 3 apartments on the top 10 over the most expensive apartments in Denmark, including first place, ranging from 17 to 32 million Danish kr. (Boliga, 2015). This and other apartment projects in Nordhavn have spurred a debate in the media about Nordhavn getting turned into a rich-people’s ghetto (Ifversen, 2017; F. Jensen, 2017; Kjeldtoft, 2016a, 2016b). Thus, the decision about The Silo follows the market demand and is steered by ER, but also by the wish to keep the silo because of its cultural heritage value and reusing materials. Pure economic rationality would more likely argue for tearing it down.

The PFA-building on Redmolen

Amendment 2 for the local plan for Århusgade from 2016 maintains the building on Redmolen as an 'attractor'. The amendment enables construction of a 62 m building for business in the service sector and audience-oriented functions at the bottom floor. Figure 15 and Figure 16 show visualisations of the building.



Figure 15: Visualisation of the inside of the PFA-building at Redmolen (CM, 2016b, p. 5)



Figure 16: Visualisation of the outside of the PFA-building at Redmolen (CM, 2016b, p. 4)

The amendment to the local plan is more about the detailing of the local plan than an actual change, however, some of the hearing statements from the local citizens are critical towards whether this building will be an 'attractor' or just additional expensive apartments and business (ØHC, 2016; Østerbro Lokaludvalg, 2016).

In this phase, the second contradiction identified in the general storyline for Copenhagen is seen in practice again, and the economic aspect gains more importance than the two other sustainability

aspects. The discontent expressed in the public hearing statements and the media is a manifestation of a clash between these actors' interpretation of the holistic SD discourse and profit-orientation of the authorities and the private sector. The development draws on the logic expressed in sections 5.1.3 and 5.1.4, that economic development and encouraging construction will lead to more sustainability in the end. This development of the storyline and the conflicts the contradictions have caused certain civil society actors to lose belief in the storyline, but also leads to the formation of a discourse coalition between authorities and investors, which results in the particular constructions getting carried out.

Phase 6: Moving in (Århusgadekvarteret)

While the framework for the form of the urban space is set up through the local plans, the character of the final build spaces depends on the developers' interpretation of the framework as well as how it is used and shaped by its inhabitants. K, B&H argues for a general structure set out by the authorities, with the possibility for local actors to shape the urban space within this structure when they move in. This idea relates to Lefebvre's conception of the urban space as not only consisting of the physical structures but also how it is used and perceived (Lefebvre, 2011). However, while the authorities are open for actors shaping some parts of the space, the authorities still have the last say and the physical structures favour certain kinds of behaviour and people.

Citizens

According to K, around 2000 citizens have now moved into the first neighbourhood of Nordhavn (Århusgadekvarteret) (Interview,B&H). Both K and T, CM refer to the press-reputation of Nordhavn being a rich-people's ghetto in the interviews. T questions whether the development in Nordhavn is really socially sustainable (Interview,CM), while K says, that it is merely a story, and that the truth is that what makes people move in is not their income but a wish to be part of shaping a new urban district (Interview,B&H). She calls the citizens 'first-movers' with a certain 'drive' because they moved into an unfinished neighbourhood and they are not afraid to express their wishes and demands for the neighbourhood (Interview,B&H). While K does not call the citizens rich, she still assumes and appreciates a certain degree of resourcefulness here. The chairperson from ØHC argues that this approach of waiting for the citizens to push for demands is a backwards way to plan (Interview,ØHC).

It is a deliberate aim for the authorities to influence the citizens towards more sustainable behaviour. A catch phrase for Århusgadekvarteret in one of the documents is: 'A district, that makes

it easy to have a green conscience' (B&H, 2012, p. 31). K says: 'We have an influence on the built environment (...) in the demands we set up, and then we have a very diffuse influence on the behaviour of the citizens that move in' (Interview,B&H).

In an interview with a Local Citizen, she expresses discontent with the traffic in the area, e.g. too much difficulty getting around by car, no private parking, very expensive parking and too far a walk from the parking spaces to her apartment (Interview,Citizen). However, according to K these are deliberate choices to push people to make more sustainable transport choices (Interview,B&H). But while she says that they have pushed up the prices for the parking spots, she also notes that this incentive doesn't work entirely, as people apparently have enough money to spend (Interview,B&H), which indicates that the citizens are quite well-off after all.

The above reflects a clash between what the authorities see as a good citizen and the desired needs expressed by the individual citizen. The authorities indicate that citizens can and should be part of shaping the urban space, but this is only as long as they do it in what the authorities see as the right direction. There is also a clash between the aims to plan a district that encourages a more sustainable behaviour, with the aim to plan an attractive district, which can bring in the needed finances. This is a conflict bound to the second contradiction identified in the storyline of Copenhagen.

Shops

K, B&H expresses that the narrative of Nordhavn as a sustainable district is a very important factor for ensuring its success. According to K this narrative is one of the key things that differentiates Nordhavn from Ørestad⁷. In March 2017, a news email from B&H stated that different shops were to open in Nordhavn, consisting of supermarkets, specialised shops and cafés (B&H, 2017). The newsletter states that agreements have been made with actors 'which have shown a will to develop and adapt the shops to a high quality level with a focus on ecology, sustainability and local [products red.]' (B&H, 2017, own translation). This means that the supermarket chain Netto will open a shop in the district, with a special focus on ecology and food waste. Also, different shops focusing on local or organic products will move in. In the newsletter the shop owners are quoted for saying that Nordhavn 'has a special atmosphere and a huge potential', 'is a new and innovative city district with lots of energy and edge' and 'has a focus (...) on innovative concepts, social responsibility and

⁷ Another urban district in Copenhagen, which urban planners 'love to hate' (Interview,B&H). See e.g. Kjeldtoft (2016a)

community' (B&H, 2017). The narrative about Nordhavn as a sustainable district, not only in terms of technology but also in relation to social aspects, community and atmosphere, thus plays an important role for the shop owners. This narrative of Nordhavn comes closer to SD than EM, and it seems that the narrative of SD is useful for branding in the end even though EM has been more determining throughout the planning process. In relation to the discussion on the citizens above, some shop owners seem to emphasise social diversity, while there is also an emphasis on the *quality* the shops provide, which is seen as fitting to the segment of citizens in Nordhavn (B&H, 2017), indicating it is a certain quality-conscious segment.

EnergyLab

Related to the narrative of Nordhavn, there has been a lot of focus on the EnergyLab located in Nordhavn, which relates strongly to the EM discourse. The EnergyLab is a project including many partners within university, the public and private sector focusing on 'a cost-effective future smart energy system that integrates multiple energy infrastructures' (EnergyLab, 2016) and develops and demonstrates new technologies to integrate larger shares of renewable energy into the grid (EnergyLab, n.d.-b). The main inspiring outcomes are a large battery, that can be integrated into the power grid (EnergyLab, n.d.-a) as well as 'smart homes' which optimise the energy use through intelligent control over light, electricity and heat (B&H, 2016). The battery technology is called a 'trailblazing innovation' which means that 'the grid can be run much more cost-efficiently' (Dong Energy, 2016). This focus on cost-efficiency and green innovation is in line with EM. Nordhavn is additionally called a 'Laboratory for intelligent energy solutions' (IDA Universe, 2016). According to K the EnergyLab was deliberately located in Nordhavn rather than any other city district, to strengthen the brand of Nordhavn as sustainable (Interview,B&H). Thus the EM discourse plays a role in the branding of Nordhavn as well (more on this in section 5.2.2).

The narrative of Nordhavn in this phase includes both SD and EM. It seems that the SD narrative targets the actors moving to Nordhavn, while the EM narrative is used for national and global branding. However, the second contradiction identified in section 5.1.6 leads to a clash between the vision of ensuring economic benefits and the visions for an overall sustainable district.

5.2.2 Discussion of the contestations

The previous sections linked back to the 2 contradictions identified in the general storyline for Copenhagen and what conflicts and clashes these led to. This section aims to discuss in more detail

how the actors handled these contradictions in practice. In the following sub-sections, I will go through the two contradictions.

1) Trade-offs vs. no trade-offs

This contradiction was mostly outspoken through the process as clashes between civil society's perception of the SD vision and the pragmatic choices made by the administrative actors. These clashes contributed to civil society losing trust in the general storyline. However, among the administrative actors in B&H and CM, the contradiction also caused difficulties.

The interviews with K from B&H and T from CM both express SD and the need for keeping a broad and holistic perspective (Interview,B&H; Interview,CM). K also express the importance of finding solutions, which are positive, both in terms of environmental, social and economic features (Interview,B&H). While these are all in line with the bold SD visions of Nordhavn defined through the citizen consultation, T and K also stress that it is not an easy task as steering and adjusting the process in the right direction is necessary (Interview,B&H; Interview,CM). They also mention how sustainability is often used in 'flawed' or 'non-binding' ways, and they both express degrees of uncertainty and challenges in defining and translating sustainability into applicable solutions and keeping the project on track.

In relation to this, they both mention the usefulness of the DGNB-scheme, as a tool for steering the process, balancing the three aspects and as a quality stamp. They both see the certification as a proof of the resulting urban development actually being sustainable because an organisation from the outside defines the criteria. (Interview,B&H; Interview,CM).

This perception relates to Campbell's planning triangle, which sees the edges (equity, environmental protection and economic development) in conflict with each other, leading to property conflicts, development conflicts and resource conflicts respectively (see Figure 17) (Connelly, 2007).

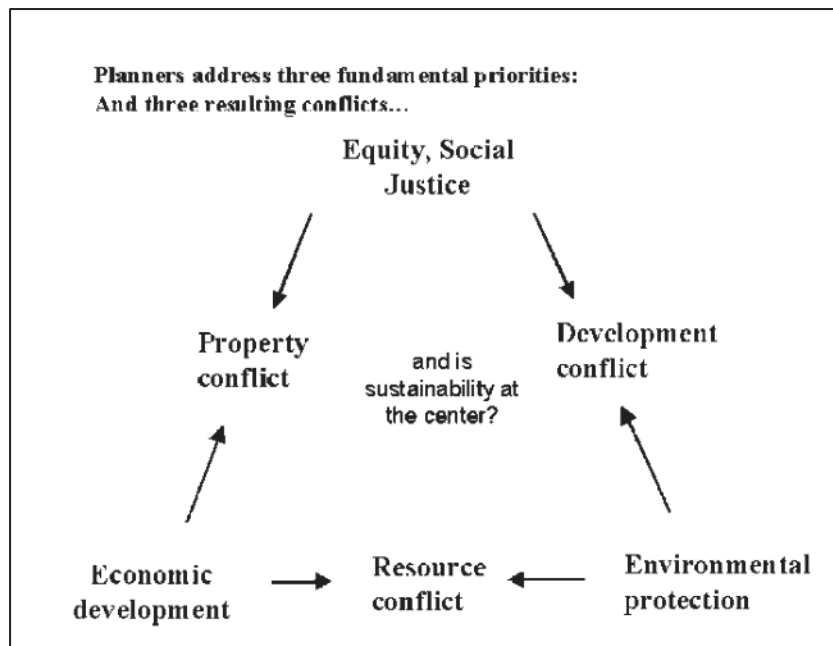


Figure 17: Campbell's planners triangle (Connolly, 2007, p. 264)

Sustainability is here seen as a kind of unreachable but ever present guidance point in the middle (Connolly, 2007). The DGNB-scheme offers a way to navigate towards this point.

Thus, the DGNB-scheme is useful for the administrative actors, as it recognises the potential of trade-offs. However, while the scheme demands actor involvement throughout the planning process, the definition of what is sustainable and good planning is pre-defined by the experts behind the scheme. This can be argued to go against the ideal of Copenhagen's Agenda21-strategy to ensure not only information but co-creation with citizens (CM, 2016a).

Birkeland (2012) expresses a critique of tools similar to the DGNB-scheme, as it reflects a weak rather than strong version of SD where gains in one aspect are allowed to cancel out losses in others. The DGNB-scheme is aware of this risk and tries to handle it through requiring a minimum score in each category, however criteria in the economic and the socio-cultural category seem to be directly conflicting. While the socio-cultural quality includes assessment of diversity and room for all types of people, economic quality includes assessment of the financial impact on the municipality through increased tax-base and low unemployment rate (DK-GBC, 2016), which indicates adapting the area to a certain income group.

2) Equal importance vs. economic prerequisite

This contradiction was outspoken in several conflicts along the planning process, where the economic aspect gained more focus than the two other sustainability aspects, based on the

assumption that economic growth is the prerequisite for sustainability in general. These conflicts, like the above, contributed to civil society losing trust in the general storyline. However, the development of the storyline towards more economic focus meant that discourse coalitions among authorities and investors were formed successfully.

EM and ER are seen throughout most of the planning process. Often EM is presented as reconciling economic growth and environmental protection through different technologies, while a social component is presented elsewhere. The social component is mostly seen through an architectural lens in the local plans, with a focus on the size of the building plots, access to harbour fronts and lively or vibrant urban spaces.

However, the administrative actors in CM and B&H express a disbelief in EM focused decision-making. K expresses a critique of a technocratic perspective, which focuses purely on CO₂-reduction or high-tech environmental solutions, and instead, she argues that liveability should also be taken into account (Interview,B&H). T, CM calls a purely economic focus of sustainability flawed, and in some regards, he expresses the limits to growth discourse. However, he also makes it clear that his own personal view is more radical than what is common (Interview,CM).

Both T and K express that ER is generally strong within the authorities. K's position within a public but profit-maximizing company forces her to adhere to a certain discourse when arguing for decisions officially. She says that there is a necessity for arguing for projects based on their positive contribution to the economic value of properties, which she finds hard in relation to livability- and sustainability projects (Interview,B&H). T expresses how sustainability is often translated into pure economic sustainability, which he calls flawed, as it does not recognise limits (Interview,CM). These scepticisms show a disbelief in ER and the assumption that economic growth will lead to economic, social and environmental sustainability. This scepticism has strong parallels to the critique in the literature, where it is noted that economic growth in itself undermines environmental protection (Ewing, 2017), and often leads to gentrification (Bunce, 2009).

EM is recognised as playing an important role in the narrative about Nordhavn. K says: '...there is a good communications perspective in having these gadgets to show people: Here are the chargers for the electrical vehicles and here is the supermarket that recirculates their excess heat into the district heating system' (Interview,B&H). However, she also argues that it 'is annoying when people think that sustainability can be communicated through this kind of quick delivery through having a smart gadget'(Interview,B&H). Instead, she says 'it is important to spend the time giving the full explanation on what it is about, also regarding the non-environmental but much more social

parameters that people do not necessarily see as something to do with sustainability'(Interview,B&H). This indicates the internal struggle between the actors constructing the narrative of Nordhavn and between the EM and SD discourses, where the EnergyLab might be an influential actor on the EM-side.

The emphasised quality of EM is that it succeeds in forming something material, which can be seen and measured. The social aspects are more difficult to see and measure, and whether an urban space is a good urban space depends on the people experiencing it (Lefebvre, 2011). The aim of implementing visible material features explains the translation of social components into concrete architectural features in the plans explained above.

The development in Nordhavn towards expensive apartments and business, and the media coverage calling it a rich-people's ghetto relates to many other studies, which criticise implementation of sustainability in cities for neglecting social dimensions through economic and private interests (Bunce, 2009; Pearsall, 2012; Russell & Redmond, 2009; While et al., 2004). The debate in the media, however, means that both the interviewed administrative actors as well as politicians are very aware of the accusations and try to handle the issue through the available means. K, B&H emphasises that public access to all harbour fronts has been a major priority (Interview,B&H). Deputy Mayor of Copenhagen Frank Jensen (social democrat) responded to the critique that the municipality now has the possibility to set demands for up to 25 % rental housing, which was not possible by law when Århusgadekvarteret was built (F. Jensen, 2017). He argues that this demand will be imposed in the next neighbourhoods. The aim is therefore that social sustainability is ensured through regulation of the property developers. However, while the properties still need to be sold to finance the metro, it remains to be seen whether this demand will be possible to keep.

While the property developer recognised that sustainability goals are very important in relation to ensuring the future society, he also expresses that these goals increase the prices of the projects, which inevitably leads to expensive apartments (Interview,PropertyDev). His suggestion is to change the restrictions for housing sizes enabling the creation of much smaller and untraditional high-quality homes for the low-income population in attractive areas (Interview,PropertyDev).

Summarising this discussion, SD does not provide any guidelines for implementation but rather serves as a broad vision that many actors can be a part of, while subsequently sowing doubt among civil society because the visions were impossible to implement all at once. Because of SD lacking recognition of trade-offs, different tools were used to handle these, and EM was used in implementation with a supplement from the pragmatic paradigm. Nordhavn is yet another example

of successful implementation of EM. However democracy and social equality loses priority as a consequence, and not all the actors consider what is implemented as sustainable. The actors working in B&H and CM, as well as civil society, express a critical stance towards EM, which should mean that it is dubious that the storyline can keep its political power. Nevertheless, it is along with ER a leading discourse throughout the planning process of Nordhavn, possibly because of the general focus on accommodating private sector, pressuring the administrative actors to adhere to these discourses.

While SD and EM have resulted in an increased focus on sustainability in Copenhagen, the conflicts caused by the contradictions in the storyline and the expressed disbelief shows that a new approach to urban sustainability is now required. Bayulken and Huisingh (2015) argue this for urban sustainability generally and introduce approaches such as 'cradle-to-cradle', or 'circular metabolism'. The challenge of using such approaches in Copenhagen (and probably in other cities as well) is that it challenges the belief in the necessity of economic growth, which is not only strong among city politicians but also in national and global institutions. The first step towards new approaches must be to officially be aware and debate that SD and EM that are routinized in CM by now pose inherent contradictions and recognise that there will always be trade-offs in urban planning.

6 Conclusion

The urban context is seen as crucial in the transition towards a more sustainable world, however many studies have documented the lack of success in implementing sustainability policies in relation to urban development. The planning process is often messy and unpredictable with many actors giving different meanings to sustainability. This study of discursive struggles in the planning process of Nordhavn exemplifies this.

The study shows that a mix of several discourses, which are inherently contradicting in their pure form dominate the general storyline for urban planning in Copenhagen. These discourses are Administrative Rationalism, Democratic Pragmatism, Economic Rationalism (ER), Ecological Modernization (EM) and Sustainable Development (SD). The contradictions identified relate to general critiques of EM and SD and include: 1) Whether or not social, environmental and economic sustainability can be implemented simultaneously in the built environment without trade-offs, and 2) Whether economic growth is a prerequisite or a deal-breaker for sustainability. Throughout the planning process of Nordhavn, these inherent contradictions resulted in various clashes and conflicts over differing perceptions between the actors, resulting in civil society losing faith in the storyline. A shift from a focus on SD in the visions towards EM and ER in the later planning phases resulted in

successful discourse coalitions formed between investors and the administrative institutions, although the workers within the administrative institutions do not believe the assumptions behind EM themselves.

The process of Nordhavn shows a translation of sustainability, starting at holistic sustainability visions and leading to the implementation of a green but expensive district, which is criticised by locals and the media. Virtues like democracy and social equality are clearly lost in translation in the search for accommodating investors.

Based on this study it is argued, that while EM and SD have driven a change towards more focus on sustainability it is now time for new approaches in Copenhagen (and possibly in planning for urban sustainability in general) if the aim is to keep the support of civil society and the administrative workers. The study exemplifies the challenges of implementation and the limitations of SD and EM in an urban planning context. SD and EM are already routinized discourses, and therefore the first step towards change is for the actors to be explicitly aware of and discuss the contradictions these discourses pose to ensure more successful implementation in the future.

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Appendix A: Dryzek's discourse categories

Table summing up Dryzek's (2013) discourse categories

	Basic entities recognized or constructed	Assumptions about natural relationships	Agents and their motives	Key metaphors and other rhetorical devices
1. Looming Tragedy: Limits, Boundaries, Survival	<ul style="list-style-type: none"> - Finite stocks of resources - Carrying capacity of ecosystems - Planetary boundaries/Safe operating space - Population - Elites 	<ul style="list-style-type: none"> - Conflict - Hierarchy and control 	<ul style="list-style-type: none"> - Originally elites; motivation up for grabs - More recently, greater variety 	<ul style="list-style-type: none"> - Overshoot and collapse - Commons - Spaceship Earth - Lily pond - Cancer - Virus - Images of doom and redemption
2. Growth Unlimited: The Promethean Response	<ul style="list-style-type: none"> - Nature as only brute matter - Markets - Prices - Energy - Technology - People 	<ul style="list-style-type: none"> - Hierarchy of humans over everything else - Competition 	<ul style="list-style-type: none"> - Everyone - motivated by material self-interest 	<ul style="list-style-type: none"> - Mechanistic - Trends
3. Leave it to the Experts: Administrative Rationalism	<ul style="list-style-type: none"> - Liberal capitalism - Administrative state - Experts - Managers 	<ul style="list-style-type: none"> - Nature subordinate to human problem solving - People subordinate to state - Experts and managers control state 	<ul style="list-style-type: none"> - Experts and managers - Motivated by public interest, defined in unitary terms 	<ul style="list-style-type: none"> - The administrative mind - Navigating and steering
4. Leave it to the People: Democratic Pragmatism	<ul style="list-style-type: none"> - Liberal capitalism - Citizens 	<ul style="list-style-type: none"> - Equality among citizens - Interactive political relationships, mixing competition and cooperation 	<ul style="list-style-type: none"> - Many different agents but citizens central - Motivation a mix of material self-interest and multiple conceptions of public interest 	<ul style="list-style-type: none"> - Public policy as a resultant of forces - Policy like scientific experimentation - Thermostat - Network
5. Leave it to the Market: Economic Rationalism	<ul style="list-style-type: none"> - Homo economicus - Markets - Prices - Property - Governments (Not citizens) 	<ul style="list-style-type: none"> - Competition - Hierarchy based on expertise - Subordination of nature 	<ul style="list-style-type: none"> - Homo economicus; motivated by self-interest - Some government officials must be motivated by public interest 	<ul style="list-style-type: none"> - Mechanistic - Stigmatizing regulation as 'command and control' - Connection with freedom - Horror stories
6. Greener Growth: Sustainable Development	<ul style="list-style-type: none"> - Nested and networked social and ecological systems - Capitalist economy - Ambiguity concerning existence of limits (weak - strong) 	<ul style="list-style-type: none"> - Cooperation - Nature subordinate - Economic growth, environmental protection, distributive justice, and long-term sustainability go together 	<ul style="list-style-type: none"> - Many agents at different levels, transnational and local as well as the state - Motivated by the public good 	<ul style="list-style-type: none"> - Organic growth - Nature as natural capital - Connection to progress - Reassurance
7. Industrial Society and Beyond: Ecological Modernization	<ul style="list-style-type: none"> - Complex systems - Nature as waste treatment plant - Capitalist economy - The state 	<ul style="list-style-type: none"> - Partnership encompassing government, business, environmentalists, scientists 	<ul style="list-style-type: none"> - Partners - Motivated by public good 	<ul style="list-style-type: none"> - Tidy households - Connection to progress - Reassurance (at least for developed)

		<ul style="list-style-type: none"> - Subordination of nature - Environmental protection and economic prosperity go together 		countries)
8. Changing People: Green Consciousness	<ul style="list-style-type: none"> - Global limits - Nature - Unnatural practices - Ideas 	<ul style="list-style-type: none"> - Natural relationships between humans and nature that have been violated - Equality across people and nature 	<ul style="list-style-type: none"> - Human subjects, some more ecological aware than others - Agency can exist in nature too 	<ul style="list-style-type: none"> - Wide range of biological and organic metaphors - Passion - Appeals to emotions - Intuition
9. New Society: Green Politics	<ul style="list-style-type: none"> - Global limits - Nature as complex ecosystem - Humans with broad capacities - Social, economic, and political structures 	<ul style="list-style-type: none"> - Equality among people - Complex interconnections between humans and nature 	<ul style="list-style-type: none"> - Many individual and collective actors, multidimensional motivation - Agency in nature downplayed though not necessarily denied 	<ul style="list-style-type: none"> - Organic metaphors - Appeal to social learning - Link to progress

Based on 9 tables from Dryzek (2013)

Appendix B: Documents

Blue background: Used to answer RQ 1

White background: used to answer RQ 2

Year	Document	Organisation
2005	The Danish State, Frederiksberg Municipality and Copenhagen Municipality agree on principles governing urban development in Nordhavn	The Danish State, Frederiksberg Municipality and Copenhagen Municipality
2007	Copenhagen Municipal Plan Strategy 2007 'The thinking big city'	Copenhagen Municipality
2007	Law about the metro city ring Law about the metro company and the property development company (Later By & Havn)	The Danish State
2008	Brief – Open international ideas competition Copenhagen, Nordhavnen 'Nordhavnen – the sustainable city of the future'	By & Havn
2009	Copenhagen Municipal Plan 2009 'The thinking big city'	Copenhagen Municipality
2009	Nordhavnen Urban Strategy 'Sustainable city the Copenhagen way'	By & Havn
2009	Environmental Impact Assessment of the Nordhavn road	Copenhagen Municipality
2009	Local plan 445 Nordhavn road	Copenhagen Municipality
2009	White paper of public hearing statements in relation to EIA and local plan on Nordhavn road	Copenhagen Municipality
2009	Environmental impact assessment of the expansion of Nordhavn	Copenhagen Municipality

	and new cruise ship terminal	
2010	National Planning Directive (Regarding expansion of Nordhavn and establishment of cruise ship terminal)	The Danish Ministry of Environment
2010	Amendment to Copenhagen Municipal Plan 2009 (Regarding expansion of Nordhavn and establishment of cruise ship terminal)	Copenhagen Municipality
2010	local plan 443 Expansion/Land reclamation at Nordhavnen and new cruise ship terminal	Copenhagen Municipality
2010	White paper of public hearing statements in relation to local plan, EIA and amendment to Copenhagen Municipal Plan 2009, regarding expansion of Nordhavn and establishment of cruise ship terminal	Copenhagen Municipality
2010	Copenhagen Municipal Plan Strategy 2010 'Green growth and life quality'	Copenhagen Municipality
2010	Initial report on spatial planning in inner Nordhavn: Århusgadekvarteret.	Copenhagen Municipality
2011	Report on metro city ring at Nordhavn	The Metro Company and By & Havn
2011	Law about changes to the law about the metro company and the property development company (regarding name change and placement of container terminal).	The Danish State
2011	Environmental report on movement of container terminal to outer Nordhavn, Copenhagen harbour	Grontmij, Carl Bro
2011	Local plan 463 Århusgadekvarteret	Copenhagen Municipality

	Public hearing statements from various actors regarding the above.	
2011	Environmental Assessment of plans for Inner Nordhavn	Copenhagen Municipality
2011	Copenhagen Municipal Plan 2011	Copenhagen Municipality
2012	CPH 2025 Climate Plan 'A green, smart and carbon neutral city'	Copenhagen Municipality
2012	Guiding Report: Practicing the Spatial planning law	The Danish Ministry of Environment
2012	Sustainability tool	Copenhagen Municipality
2012	Amendment to local plan 443 Expansion/Land reclamation at Nordhavnen and new cruise ship terminal Public hearing statements from various actors regarding the above.	Copenhagen Municipality
2012	Nordhavnen from idea to project, Inner Nordhavn, Århusgadekvarteret	By & Havn
2013	Law about changes to the law about the metro city ring and law about the metro company and the property development company (regarding expansion of metro to Nordhavn)	The Danish State
2013	Local plan 498 Århusgadekvarteret Vest Public hearing statements from various actors regarding the above.	Copenhagen Municipality
2013	Local plan 499 Trælsthølmene in Nordhavn Public hearing statements from various actors regarding the above.	Copenhagen Municipality

2013	Local plan 500 Levantkaj vest Public hearing statements from various actors regarding the above.	Copenhagen Municipality
2014	Amendment 1 for local plan 463 – The Silo. Public hearing statements from various actors regarding the above.	Copenhagen Municipality
2014	Copenhagen Municipal Plan Strategy 2014 ‘The Coherent City’	Copenhagen Municipality
2015	Copenhagen Municipal Plan 2015	Copenhagen Municipality
2015	Law on spatial planning	The Danish Ministry of Industry, Business and Financial Affairs.
2015	Law about changes to the law about the metro city ring and law about the metro company and the property development company By & Havn (regarding further expansion of metro to Nordhavn, changes in ownership structure and the Nordhavn tunnel project)	The Danish State
2015	Local plan 524 Sundmolen in Nordhavn Public hearing statements from various actors regarding the above.	Copenhagen Municipality
2016	Amendment 2 for local plan 463 Århusgadekvarteret – Redmolespidsen Public hearing statements from various actors regarding the above.	Copenhagen Municipality
2016	Copenhagen Municipality Agenda 21-strategy for 2016-2019	Copenhagen Municipality

	'Sustainable interrelations'	
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Appendix C: Interviews

List and description of interviewees and purpose of interviews

Sector	Interview	Description, institution/organisation
Public	23.02.2017 'T', Special Consultant, Copenhagen Municipality (CM), Administration for environment and technique, Urban Development. <i>T works with integrating sustainability in local plans in Nordhavnen.</i>	CM is the authority for the project. They make plans and policy documents to steer the development.
Public/ private	15.02.2017 'K', Project manager, By & Havn (B&H), Department for sustainability and urban life <i>K works with integrating sustainability goals in the implementation of Nordhavn, e.g. through the DGNB certification</i>	B&H is project developer for Nordhavn and several other development projects in Copenhagen. Copenhagen Municipality and the Danish State own the company, but it is managed as a business.
Civil society	25.04.2017 Citizen, Nordhavn	
Civil society	27.02.2017 Chairperson, Østerbro Harbour Committee (ØHC)	Østerbro Harbour Committee is a local citizen organisation concerned with life in harbour areas in Østerbro. It was established before the urban development project in Nordhavn.

Private	07.04.2017 Property Developer for several projects in Copenhagen. His company has bought building plots in Nordhavn to develop and resell them.	
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Appendix D: Map of Nordhavn



The red X marks the location of the container-terminal currently. Based on illustration from B&H (2008, p. 39)