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STUDENTERRAPPORT

ANALYSING THE DEVELOPMENT OF CLIMATE PLANNING IN AALBORG MUNICIPALITY

MASTER THESIS

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Synopsis:

This project is based on a case study of Aalborg Municipality, where it investigates the decision-making process in relation to climate planning. The research is answering the question of *How has Aalborg Municipality been doing climate planning over time, and what are the current challenges for realizing visions in the DK2020 plan?* through the lens of the theories; Strategic Planning, Governance Theory, and Rationality and Power. The research found that climate planning is still a relatively new topic, still being adjusted, but having become more concrete over time. This means it is often difficult to follow through with strategies for a number of reasons. In Aalborg Municipality, there is a traditional culture of working in silos, meaning that different levels and departments are not used to coordinate in such a manner, as climate planning demands. Additionally, factors such as the political system, and the favoring of growth by influential people complicates the act of climate reaching the important agendas.

Preface

This project is a thesis on the 10th semester of the master's degree of Urban Planning and Management at Aalborg University. The report has been written in the period between February - June 2024 by Martin Beermann Staal and August Glavind Fleckner.

The project is part of AAU's problem-based learning programme, meaning the research is concerned with actual situations, strategies, and issues experienced in Aalborg Municipality in relation to climate planning. This means the project is built upon interviews with different experts, each agreeing to participate and provide valuable information. We would therefore like to thank the following people from Aalborg Municipality; Mette Valentiner Nielsen, physical planner, Jesper Hansen, climate coordinator, Lasse Puertas Navarro Olsen, city council member, and Lasse Frimand Jensen, mayor. We would also like to thank market director at Niras, Anja Wejs, for her contribution and knowledge on climate planning and the DK2020 plans. The recording of the interviews and transcript of these exist on file and can be provided on request. From the advise our supervisor transcript are not included in the appendix.

Other people worthy of mention are Britt Hjerl Abildtrup and Molly Bay Christensen, planner and consultant respectively at Novafos, Elinor Bæk Thomsen, chief consultant at Aarhus Municipality, Jette Vindum, climate coordinator in Vejle Municipality, and finally Tim Vermund, city council member in Odense Municipality.

Finally, a huge thank you to our supervisor throughout the project, Maj-Britt Quitzau. Your knowledge, professionalism, and helpfulness have ensured an overall easier writing process during this report.

Referencing

In terms of referencing, this project has been applying the Harvard reference method as in (Author, Publication year). Each reference used in the project can be found in the bibliography section.

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1.1 Climate planning

The year 1992 was a defining year in relation to climate planning. Just five years earlier, the Brundtland Report had been published, being the first attempt to create international awareness on climate and health aspects. In the wake of this plan, a conference called the Earth Summit was held in Rio De Janeiro in 1992, resulting in the creation of a UN treaty. The purpose of this treaty was to create consensus between the countries that signed it, about the necessity of combating climate changes. The treaty officially entered into force in 1994. This convention thus marked a significant step in global efforts to address climate change by providing an overall framework for international cooperation. The main focal point in the treaty, also called UNFCCC, was to stabilize greenhouse gas concentration in the atmosphere to prevent dangerous anthropogenic interference with climate systems. Since the introduction to climate planning in 1992, it has become a crucial aspect of national and local policies all over the world. (UN, 2024) Today countries, cities, and municipalities have developed strategies, action plans, and adaption measures to address the challenges that climate changes are posing. Over the years, the urgency of climate action has increased, leading to various international agreements, such as the Paris Agreement in 2015, setting more ambitious targets for limiting global temperature rise (UN, 2024). In general, climate change, and the creation of action plans in order to combat this, can be said to be one of the most significant challenges experienced in the twenty-first century (UN, 2014).

By these agreements and international conventions, it has become evident that nations and cities have to work and plan for climate adaption and prevention. This means new alternative ways of thinking, and new ways to plan for climate in general. The Paris agreement in 2015 has later been seen as a milestone in international climate planning, as it provided a framework for financial, technical and capacity support for the countries that needed it. The reason the Paris agreement was seen as a success and created an international objective for climate planning, is described by Jos Delbeke (Delbeke, 2019). Previously, while the EU took a leading role in the negotiations on climate change and future conditions, many nations withdrew from the previous conventions. The lead-up to the Paris Agreement is further explained, highlighting efforts by the EU, the US, and a progressive alliance of developed and developing countries to reach a consensus. In 2015, most countries reached an agreement, thus representing a landmark achievement with ambitious reduction goals for emissions and mechanisms for transparency

and accountability applicable to all parties (Delbeke, 2019). Overall, the Paris agreement managed to establish a long-term plan and a set of legal binding objectives the nations had to achieve (UN, 2024). The agreement followed a five-year circle where countries by 2020 should have communicated and developed their climate action plans, also known as nationally determined contributions (UN, 2024). This meant that countries were to create a plan and map out their own strategy for how to solve respective climate issues and adopt new solutions. In Denmark, this was further delegated to the municipalities, giving them the overall responsibility for adopting and finding environmental solutions that could reduce any climate risk. The Danish government was then responsible for setting overall goals and presenting climate accounts. This meant the government was not responsible for the implementation of strategies but rather to inform about various issues and potential ways they could be resolved. Since the Paris Agreement was fundamental for the overall agreements in which nations and cities have to work by, this resulted in the creation of the so-called DK2020 in Denmark. Created by the think tank, Concito, and in cooperation with developer company, Realdania, this plan was to act as a framework, making it easier to do climate planning and reach the agreed-on goals of reduced CO₂ emissions. The DK2020 was constituted in 2019 where 20 municipalities entered as test subjects (Realdania, 2019). As of today, every single municipality in Denmark has chosen to enter into this agreement, thus obligating themselves to work towards the goals in the plan (Realdania, 2019). The purpose of DK2020 is therefore to make it more convenient and streamlined for all municipalities, so they know which focal points that have to be addressed, and which potential strategies to use. Additionally, this collaboration was deemed necessary as climate planning is a relatively new field consisting of many unknowns and the need for new technologies, typically something which municipalities do not have the resources or means to assess on their own (Realdania, 2019).

In the aftermath of the release, several concerns towards the process and that way of doing climate planning has been raised. Some experts have been criticizing the DK2020 framework, as they generally believe it not to be a sufficiently good plan, lacking ambition, and with the opinion that the current version of DK2020 does not meet the requirements of the Paris Agreement. This is due to the plans only containing a fixed reference point for emissions in the years 2030 and 2050, but without monitoring the amount of greenhouse gasses emitted along the way (Hansen, 2021).

1.2 Physical Planning and its Challenges

When talking about climate change, cities can be said to be a major contributing factor as these have been, and still are, the main drivers for economic growth. The economic aspect has been the foundation for the physical planning for many decades, where the effects of this planning can be seen in urban expansion due to the construction of new infrastructure projects, commercial areas, apartment complexes, and other aspects in the name of progress (Næss, 2023). This has led to an over-consumption of resources, mostly in the global north and especially the western world, where the consequences of

this growth philosophy have become as clear as ever within the modern era. Besides the obvious fact that cities are responsible for a significant part of the combined CO₂ and other greenhouse gasses, other aspects include economic inequality, both on a national as well as international scale, and loss of biodiversity as a result of natural areas becoming urban as well as overuse of natural resources (Næss, 2023). As a result of climate changes and the impact cities are having on the environment, the sustainability lens has naturally been focused on the physical planning within an urban context where new desires and strategies have emerged. Here, key areas such as construction, recycling of building materials, green spaces, transportation as well as water and precipitation have been researched and analyzed in order to steer cities in a more sustainable direction. While these strategies may vary due to each city being different and thereby having different needs, the undeniable aspect is, according to researcher within planning, Petter Næss, that a sustainable transition and mitigation of climate changes do not correspond with the previous philosophy of urban and economic growth (Næss, 2023). Some points though there seems to be consensus about in terms of how physical planning should be carried out in the future. One of these is densification of the city. By aiming for densification when doing urban planning several aspects are achieved, the most significant being able to avoid destroying natural areas, wildlife habitats and the overall biodiversity for the purpose of construction sites (Concito, 2021). This is also known as urban sprawl. Another thing which is achieved is the minimizing of transport. A denser city will generally result in shorter distances from people's homes to their activities, thereby reducing the amount of transport required, which is one of the biggest contributing factors to a city's environmental impact (Næss, 2008). Aiming for shorter distances between e.g., schools, supermarkets, sports activities and workplaces could therefore lower the overall amount of car emissions, as people simply drive less or perhaps feel more inclined to walk, bike or use public transport instead. Furthermore, the number of resources used for construction is generally lower when it is happening inside the already existing city rather than on unused lands outside (Concito, 2021). This is due to the fact that unused lands will need the transport of resources such as soil, sand and concrete, and additionally require new infrastructure such as grid expansion, road networks and sewer systems. This is something which is typically already installed within the city. Furthermore, the city gives the opportunity to use already existing buildings for new purposes or reuse infrastructure, thereby saving building materials and other resources, which will impact the environment in the end (Concito, 2021). Lastly, a densification will help reduce the amount of energy needed mostly for electricity and heating. The reason is that story buildings and apartment complexes are easier to heat up and use less electricity compared to people living in houses (Næss, 2008). Despite the increasing awareness of both climate change and other environmental impacts caused by cities, construction projects and the overuse of natural resources, it is often seen how many initiatives in the green transition are having difficulties getting implemented in the physical planning. Climate strategies, which are usually taking point of departure in national goals as well as international such as UN and EU guidelines, end up being simply strategies, where there seems to be a gap between the process of formulating these

strategies and the act of implementing them. There seems to be multiple reasons as to why climate initiatives are not manifested in the physical planning which often ends up with other priorities. Many people argue that there is a lack of political will with politicians being too passive and not taking the necessary action towards a more sustainable future, instead prioritizing other aspects such as growth (Jørgensen, 2020). Furthermore, it is argued that inadequate information is creating circumstances which are making it difficult for decision makers to implement proper sustainable solutions. An example is the lack of data concerning commuters and their behavior, thus creating a knowledge gap which complicates the process of moving forward with strategies for e.g., new bike paths, carpooling or the concept of the 15-minute city (Concito, 2021). A further important aspect when trying to implement sustainable solutions is the organizational structure and how these organizations choose to coordinate their strategies. As the term sustainability in itself is near impossible to define due to the plurality it encompasses, this means it often touches and traverses different sectors and departments within organizations (Quitau et al., 2022). However, as such organizations are typically built upon and rooted in traditions in terms of communication, collaboration and hierarchies, strategies formulated within this organizational structure become insufficient in trying to deal with challenges presented by a thing such as climate change (Quitau et al., 2022). Strategies, values and working practices which have previously been a success, and have carried modern day society to where it is, thus seem outdated when it comes to sustainability as it requires a more collaborative and dynamic approach rather than bureaucracy and rigidity (Quitau et al., 2022)

1.3 Climate Planning in Aalborg Municipality

When looking at the history of climate planning in Aalborg Municipality, it is seen how the international conventions and agreements, as described above, have had an effect, as Aalborg's first climate plan arose in the same period. In 1994, after being inspired by the Rio Earth Summit, the city hosted an international conference with the intention of *contributing to the European Union's Environmental Action Programme, 'Towards Sustainability'*. (AalborgKommune et al., 1994). The conference resulted in *The Aalborg Charter*, a document stating how different environmental issues have developed as a result of nations', cities', and people's actions and lifestyles, and that these must be changed in order to create future sustainability (SustainableCities, 1994). The charter addressed areas such as pollution of natural elements, over-consumption of resources, protection of forests, and greener transport, and it was signed by over 40 different countries, mostly European but also a few from other continents (SustainableCities, 1994). Since the conference, Aalborg Municipality has created various climate strategies where each can be said to be a continuation of the charter, trying to find ways to implement these climate aspects into the municipal plan and the physical planning. The latest climate plan is, as mentioned above, the DK2020 plan which was created by Concito and Realdania. Aalborg Municipality adopted this plan in November 2020, which, since its creation, has been adopted by all

other municipalities as well.

During the span of this period from 1994 and up until now, it could be argued that the effects of such climate plans are yet to be witnessed, as many of the visions and strategies were not met, or are still waiting to be implemented. When looking at traffic statistics in Aalborg Municipality, it is seen that the number of private vehicles has increased by over 25% between the years 2007 - 2018. In that same period, the number of busses has decreased with approximately 50% (AalborgKommune, 2018). Despite one of the main visions being a greener and more sustainable transport sector since the creation of the charter, it is seen how the development has been the complete opposite in the municipality. Looking at Aalborg's municipal plans since 1994, a central element has been growth. The municipality identified certain areas of the city in which development was to be centered around, naming it the 'Growth Axis' (AalborgKommune, 2012). Furthermore, Aalborg Municipality's organizational chart shows a division in departments, each handling their own area of expertise, e.g. climate and environment, urban development, and local plans. The mentioned plans and strategies for Aalborg Municipality will all be elaborated on in later chapters.

Research Question 2

As described in the section above, silo thinking and growth philosophies are two factors which can complicate matters when doing climate planning. It is therefore relevant to investigate whether these, along with other potential factors as well are present within Aalborg Municipality, and to what extent they affect the climate planning being carried out. This has thereby led to the following research question:

How has Aalborg Municipality been doing climate planning over time, and what are the current challenges for realizing visions in the DK2020 plan?

In order to create a better structure, making it easier to answer this research question, the following sub-questions have been asked:

How has the DK2020 changed Aalborg Municipality's approach to climate planning?

The intention with this sub-question is to gain a deeper understanding of Aalborg Municipality's previous climate planning. This gives the ability to compare it to the recently adopted DK2020 plan in order to point out differences, strategies, and new approaches.

To which degree are governance and power relations present in Aalborg Municipality's climate planning, and what main barriers can be identified in the process?

The purpose of the second sub-question is to analyze Aalborg Municipality as an organization, identifying potential structures, hierarchies, and other elements which complicates the climate planning process.

2.1 Research Design

The figure below is meant to give an overview of the research carried out in this project, by highlighting the approach and methods used for data collection.

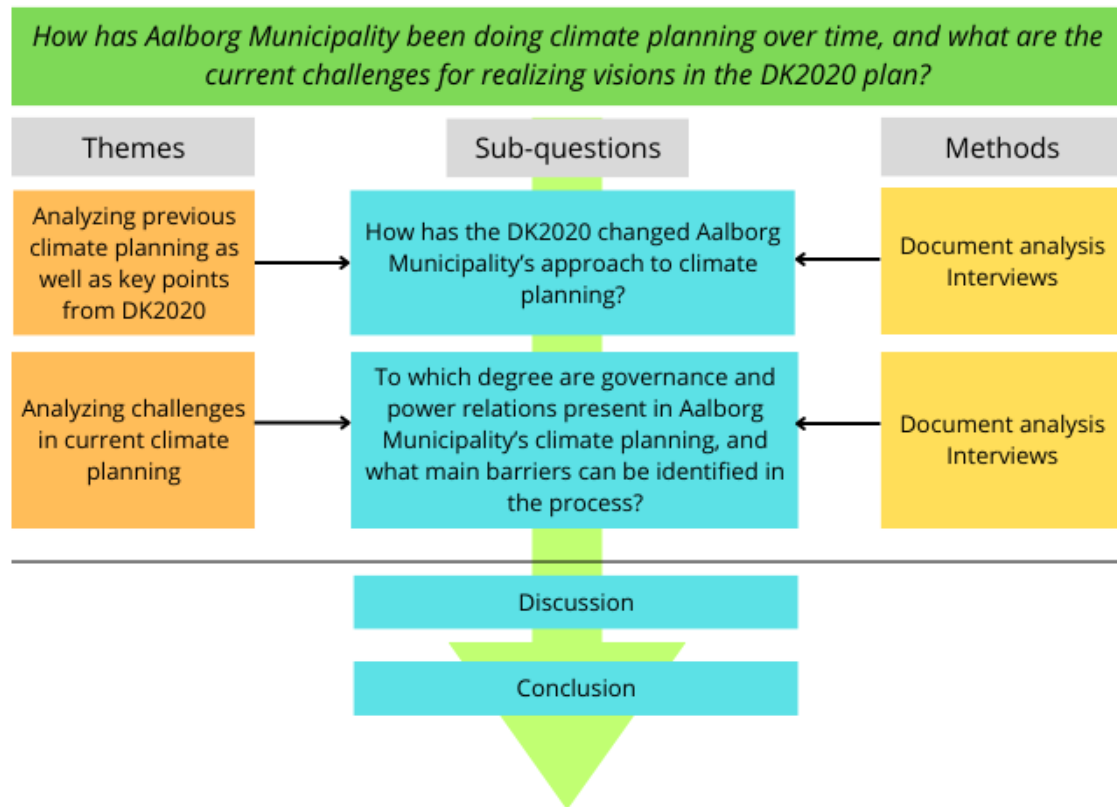


Figure 2.1. Research design, own production.

Theories 3

The following chapter introduces the different theories which are being used to analyze the data collected. These are strategic planning, governance theory, as well as rationality and power. The last two theories will be used to supplement each other,

3.1 Strategic Planning

This section will attempt to conceptualize strategic planning and how it differs from the more conventional type of planning which seems to be the dominant approach in many places. Strategic planning has been chosen due to its more nuanced approach, where an important aspect is concerned with analyzing trends and tendencies within the surrounding environment, both internal and external of the organization in order to adopt more holistic strategies and approaches. This theory will therefore aid in answering the first sub-question, *How has DK2020 changed Aalborg Municipality's approach to climate planning?*. To quote John M. Bryson, strategic planning encapsulates a way to *promote strategic thinking, acting, and learning; to improve decision-making and improve organizational performance* (Bryson et al., 2009). The theory surrounding strategic planning thus aids in understanding how Aalborg Municipality is working towards the goals and visions of climate planning, by analyzing different processes and dynamics within the organization.

As Louis Albrechts writes in his article *Strategic (Spatial) Planning Reexamined*, strategic planning is a term which has no single definition due to its many potential approaches in different circumstances (Albrechts, 2004). In other words, strategic planning is not a fixed framework with a step-by-step guide that an organization can simply apply and work from. Instead, it is rather a set of tools which can be used for creating a framework that can help an organization to become more aligned with their goals and thereby make better decisions (Albrechts, 2004). The reason behind this is due to the fact that planners typically find themselves in circumstances which differ from planners elsewhere, whereas it is necessary to create a strategy that is well-adapted to these circumstances. An important aspect of strategic planning is therefore concerned with analyzing trends and tendencies within the surrounding environment, both internal and external of the organization. This is for the purpose of staying up to date and better realize potential opportunities which can help ease the planning process or avoid difficulties which can complicate it. Furthermore, such strategies will typically require the ability to cooperate and coordinate within multiple departments, as climate is rarely limited to a singular section (Quitze et al., 2022).

Strategic planning especially becomes a valuable tool when planning in uncertain times, as it is often seen how circumstances can change rapidly. The essence of strategic planning can therefore be said to encapsulate having a clear long-term strategy but with a necessary flexibility and dynamic which gives the ability to adapt to the changing circumstances, something that is required in order to solve more complex problems (Albrechts, 2004). In recent times there have been numerous examples of such changing circumstances with the conflicts in Ukraine and Gaza, climate changes and the emergence of AI. In the case of Aalborg Municipality, these aforementioned factors along with national and international legislation such as the Paris agreement, land use, private and public interests, and many more aspects would be examples of an environment which would need to be contemplated as they affect the planning process.

Due to this rapidly changing world along with an unprecedented level of connectivity in terms of networks, trade and the sharing of information, the requirement of stakeholder involvement is likewise an important aspect of strategic planning. While stakeholder involvement is a broad term which can encompass numerous aspects, Bryson, et al. are trying to conceptualize it in their article (Bryson et al., 2009). Here, they explain it as primarily a social setting influenced by networks, patterns of communication, coalitions, and relations between stakeholders in general. However, stakeholder involvement also takes into account so-called non-social things such as plans and strategies, computer systems, decision-making approaches, etc. (Bryson et al., 2009). Thereby, a stakeholder can be seen as any person, organization or tool who have the ability to alter or change the course of action. Furthermore, it is argued how each stakeholder can play a role in determining outcomes, and that facts and circumstances, which make up the world as we know it, are never as predefined as one would think (Bryson et al., 2009). It then becomes clear why coordination is an important aspect of strategic planning, as it requires an understanding of each stakeholder involved in a planning process in order to be able to navigate through circumstances like legislation, strategic plans, communication, influence, context specific knowledge, resources, and much more. This, in the end, can help reach a more common understanding between actors, thus making it easier to set and reach goals where there is a common benefit (Bryson et al., 2009). It could therefore be argued that the complexity, which climate planning presents, calls for an adoption and integration of strategic planning. Firstly, looking at Aalborg Municipality's DK2020 plan it is seen how most of their goals e.g., the wish for more renewable energy, greener transport, and an overall lowering of CO₂ emissions depend on both the municipality and its internal structure as well as external actors such civil society, companies, and the state. Therefore, a necessity of strong collaboration between a great plurality of actors arise, something that the municipality also includes in the plan (Aalborg Kommune, 2022). Aalborg's climate plan thus confirms the connectivity as mentioned above, where decision-making processes of a certain size contain multiple different interests, whereas it becomes crucial to share knowledge, visions and strategies with the purpose of developing common goals which, in the end, can help create a smoother planning process. Secondly, the conventional way of planning, which usually relies on a bureaucratic approach, seems to be outdated as it tends

to be a rigid process with little room for imagination. This is due to different municipal departments acting as silos within their own legislation, thus making cooperation between them difficult, whereas climate planning requires strong coordination skills, a certain level of flexibility, and the ability to adapt and act fast as seen above (Quitze et al., 2022). This means new ideas and a certain level of creativity are needed in order to combat these problems and being able to prioritize urgent tasks which demand solutions here and now, something which is typically not found within the bureaucratic process. By involving more stakeholders in the planning process, this is bound to bring new angles and ideas to the table (Albrechts, 2004).

Another aspect of strategic planning is described by Roger Kaufman. In his work *Strategic Planning Plus: An Organizational Guide* Kaufman talks about three levels of planning: micro-, macro- and mega-planning. Each level of planning can be said to be connected, where processes, interactions and decision-making processes collectively make up the level above. Micro-planning is typically concerned with planning on an individual or group level, while macro-planning encapsulates an entire organization and how it operates. Mega-planning on the other hand can be said to be a more holistic way of planning, usually looking towards society as a whole. To put this into perspective, Aalborg Municipality, as a unitary organization, would then be seen through the lens of macro-planning. However, when looking deeper into the municipal structure it is seen that it consists of multiple departments, each concerned with their own field of tasks, legislation, and challenges. The link between micro- and macro-planning thus exists in the fact that the organization have overall goals or mission objectives which are then divided up between these different departments on the micro-planning level. Therefore, actors on this level can, despite sometimes conflicting agendas, be said to collectively work towards fulfilling these overall goals on the macro-planning level (Kaufman, 1992). An example of these different levels of planning can be seen in figure 3.1 below.

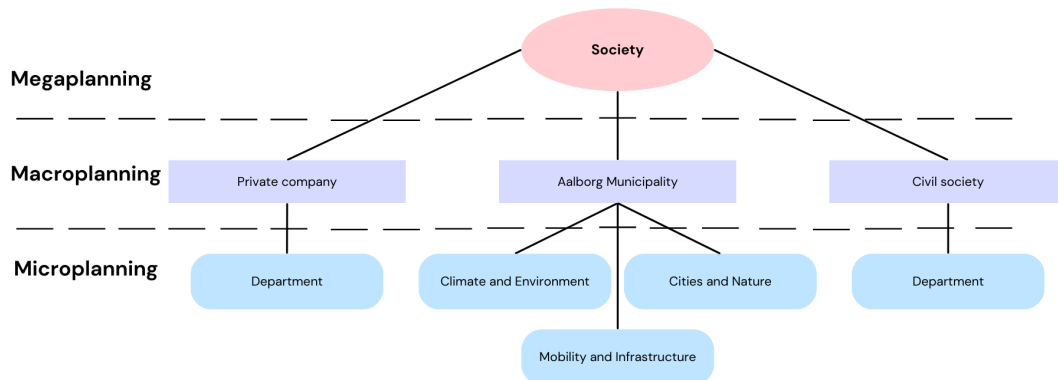


Figure 3.1. An overview of (Kaufman, 1992)’s different levels of planning, own production

The figure shows how macro-planning is made up of different sectors and departments in the level of micro-planning. In the case of Aalborg Municipality, the organization is composed of different departments such as infrastructure and mobility, environment, water, etc. who are each trying to solve their own tasks so that the overall goals laid out by the municipality can be reached, e.g., the lowering of CO₂ emissions. In the same manner, mega-planning can be said to be made up of combined planning efforts from multiple different organizations. The structure thus remains the same, however mega-planning having a broader perspective as its focus is on societal benefits such as strengthening overall biodiversity, creating solutions against future flooding issues or making sure the country lives up to international climate agreements. Mega-planning thereby seeks not just to better the situation for a singular organization or company but for all involved actors through a common goal and the possibility to take advantage of future opportunities. This can furthermore ensure, that different companies and organizations become more prone to collaborate, if a common vision is reached between them, rather than being competitors (Kaufman, 1992). This perspective therefore seems relevant as it has become clear that the challenges presented by climate changes can not be solved by a single organization or even country but require a combined effort, as they are not limited to certain areas. Compared to the other two levels, mega-planning is typically left unattended as it is a proactive way of planning with the intention of creating new purposes, whereas most planning approaches are reactive, meaning they seek to combat either current or anticipated problems in the near future (Kaufman, 1992). Therefore, mega-planning, and thus strategic planning, is, as mentioned earlier, a long-term strategy and an indicator for which way an organization wishes to go and why. It is argued that without such a vision any amount of detailed planning or well-formulated strategies will be nothing but superficial decision making which is likely not to add value or aid in bettering the situation

(Kaufman, 1992). These three levels of planning will therefore be used as an important framework when analyzing Aalborg Municipality, their organizational structure, as well as their relations to the external environment, in order to answer the first sub-question.

3.2 Governance Theory

To understand climate adaptation and change, it is essential to understand and acknowledge the level of governance a municipality operates within when they are creating strategies and visions related to this field. Therefore, governance theory, along with a supplementation of Bent Flyvbjerg's theory, *Rationality and Power* will be used to illuminate potential barriers and power struggles when answering the second sub-question: *To which degree are governance and power relations present in Aalborg Municipality's climate planning, and what main barriers can be identified in the process?*. A municipality like Aalborg is typically working from a traditional and, in relation to climate planning, unsuitable approach with silo structures, whereas the point of these theories is to analyze this phenomenon more in depth.

Gerry Stoker seeks to explain the core of governance theory and ultimately that the output of governance does not necessarily differ from government and governmental institutions, rather it is about the processes that achieve it (Stoker, 1998). The term governance is often used in various ways and meanings such as economics and political science, where a lot of the literature point to different conclusions, something which indicates that governance theory can have different meanings and is quite complex. However, despite the variety of meanings within the existing literature, there still seem to be a baseline agreement between them, that governance is concerned with the art of governing styles (Stoker, 1998). Within this theory, governance is defined as the process for how collective decision-making is being constructed, typically where a plurality of actors and organizations are involved in this decision-making process (Stoker, 1998). These actors often vary from public institutions, civil society or NGO's as well as the private sector. According to Stoker, governance can only be efficient when a diversity of actors and stakeholders is present which have the ability to influence the process. Governance therefore becomes a sort of negotiation between these actors in search of a common goal or purpose, typically where each actor possesses certain resources which the others have need of. Power and authority are then exercised through both formal and informal practices. Furthermore, there is no formal control system which can dictate the relationship between these actors and organizations, as this is determined by different aspects such as the amount of resources, their level of bargain, legislation, context of the situation etc. (Stoker, 1998)

When it comes to understanding governance in a more concrete form, how an organisation operates, and how some authorities and actors might struggle with decision making, Stoker proposes five propositions in his theory in order to understand the most critical aspects (Stoker, 1998).

The first proposition described by Stoker is that a governance is more than a government,

and that it involves more than formal government institutions ((Stoker, 1998)). This proposition encompasses a wide range of actors and organizations from all layers of society who each have a certain relationship and interactions with each other which is bound to create complexity and challenges due to different agendas and interests. This means that power does not rest solely within a government, which in itself is divided into different sectors and agencies that never act as a unitary entity, but are exercised in public-private relations or between different states. This has resulted in a new level of complexity, creating a so-called divorce in the traditional understanding of what a government is and how governance is carried out. This complexity has blurred out the roles and boundaries between the different actors, often leaving confusion in terms of who has responsibility for what which, in the end, on a political level makes it difficult to regulate or create legislation (Stoker, 1998).

The second proposition from Stoker suggests that governance is not necessarily hierarchical. In this proposition stoker argues that governance structures can be non-hierarchical and decentralized. Over time as society has advanced it is seen how many functions, which were previously handled by the state, has been delegated or sold out to the private sector, e.g. healthcare or transportation services. This has increasingly created a fragmentation and lack of coordination which can be challenging in tackling societal difficulties as it is no longer clear who has the responsibility in the end. Uncertainty then arises, when there are no clear lines of authority and coordination mechanism on how to achieve coherence and consistency in decision-making and policy implementation across multiple actors and levels of governance. This issue of fragmentation can lead to inefficiencies, duplicative efforts, and gaps in addressing complex societal challenges as mentioned before.

The third proposition, governance is relational, emphasizes the importance of relationships and interactions among actors in governance processes. Stoker argues that there generally is a power dependence between the different actors and organizations, as nobody has neither capacity nor knowledge to overcome obstacles themselves. This can typically lead to relational dynamic- and power imbalances. While highlighting the relational nature of governance, there is a risk that power imbalances and unequal relationships among actors may undermine the effectiveness and legitimacy of governance processes. This implies that stronger actors, such as governments or resourceful interest groups could dominate the decision-making process. To be sure to make inclusive and equitable participation in governance it requires that organizations address these power dynamics and try to promote a more balanced relationship among actors (Stoker, 1998).

The fourth proposition suggests that governance is about the forming of partnerships in so-called self-governing networks as mentioned earlier. Stoker defines this partnership in the term 'regime' which consist of high-ranking actors which can be from both public and private organizations, or even coalitions between multiple states. The blending together of resources and connections by linking up with powerful actors make overcoming shared difficulties easier but may also prioritize some goals and policies over others. These networks of actors thus become self-governing in a sense which is more efficient in trying

to achieve goals within certain areas than if the government was to regulate its way out of it. The issue Stoker addresses towards this is that each network also becomes autonomous to a certain degree, whereas they have a tendency to only look after their own interests and neglect the common good or whoever is not part of the network.

The fifth and last proposition suggests that governance is context specific. This means arrangements are often shaped by specific contextual factors which could include historical factors, cultural norms, institutional structures, and socio-economic conditions. It is stated that there is no one-size fits all model of governance as these factors vary from place to place, country to country. Stoker suggests that while acknowledging the importance of context-specific governance arrangements, there is a tension between recognizing the diversity of governance contexts and identifying universal principles or best "practices". Striking the right balance requires sensitivity to local contexts while also drawing on broader theoretical frameworks, and empirical evidence to inform governance practices (Stoker, 1998).

These propositions and issues related to them creates the structure which will, as mentioned earlier, be used in answering the second sub-question, analyzing problems in Aalborg Municipality's decision-making process as well as the exercising of power from different actors. When following this structure, not all propositions are equally important, meaning the analysis will primarily focus on the first three as these have been deemed most relevant when talking about climate planning.

3.3 Bent Flyvbjerg: Rationalitet og Magt

This next section concerning power structures will, as previously stated, be used in combination with Stoker's governance theory. As described above in the first theory, Stoker talks about how relationships and power dependencies between actors are an important aspect in governance but does not fully elaborate on how these shape the process. It is frequently seen how planning favors initiatives which promote growth and financial gain, typically without having to justify or evaluate, as it is typically assumed that such gains speak for themselves and don't need legitimization. Climate initiatives, on the other hand, despite the seriousness of the situation and being heavily research-backed, will have to present strong arguments in order to make the agenda. This entails that people, with whom power resides, have other priorities than climate. Therefore, Flyvbjerg's theory is meant to be a supplement to Stoker's theory, explaining more in detail the relationships and the aspect of power taking place within Aalborg Municipality. This is especially relevant in relation to the third proposition, talking about interactions between stakeholders. In his book *Rationalitet og Magt*, Bent Flyvbjerg describes the correlation between rationality and power, and how these two affect the financial, political and organizational circumstances which tend to heavily influence any planning process. This is not only between an organization and its external environment but within an organization's own ranks as well. Especially the financial aspect is a determining factor

when planning a project. It is argued that whoever is in possession of the resources will determine when and how a project is realized, as the whole operation depends on these resources. This means resourceful actors have the ability to influence the planning process much more in terms of speeding it up or slow it down, prioritize some things over others which suit their personal needs, or simply neglect certain aspects or arguments, no matter how reasonable. This means other actors only have the opportunity to influence the process with strong negotiation and well-defined arguments, but the important decisions are tied to the resources. In relation to this, Flyvbjerg argues that powerful actors have a way of rationalizing their own decisions, and that they can therefore avoid having to undergo the process of researching, evaluating and weighing different options against each other. When talking about climate planning, this could be an explanation to why climate adaptation often seems to be down-prioritized. It is frequently seen how planning favors initiatives which promote growth and financial gain, typically without having to justify or evaluate, as it is typically assumed that such gains speak for themselves and don't need legitimization. Climate initiatives, on the other hand, despite the seriousness of the situation and being heavily research-backed, will have to present strong arguments in order to make the agenda.

Another important aspect in terms of how effectively a project gets done is the level of involvement from different actors. Generally, it can be said that the more organizations and actors which have an interest or stake in a project, the harder it will be to accomplish it. Situations and planning processes that only concerns a single organization, or where a general agreement exists between the actors about goals and how to get there, makes achieving those goals much easier. This is due to an ability to better control factors such as budgets, time frames and long-term strategies. On the other hand, when a project involves multiple different actors with different interests, creating strategies and reaching goals become a lot more difficult as each actor is aiming for a specific outcome, whereas it requires a solution which encompasses it all. As this is rarely possible, a planning process then becomes a constant negotiation between the different actors which can often result in changing approach, reviewing goals, postponements or even cancellations, meaning that a planning process usually never achieves the visions which were laid out in the beginning but often have to settle for a different and, perhaps, more realistic solution further down the road. In relation to climate planning, it then becomes rather clear why many initiatives and goals, such as in the municipalities DK2020 plans, can end up not getting realized, as it is a subject which, to some degree, affect each and every citizen. That means some of Aalborg Municipality's climate goals and strategies could potentially depend on public-private partnerships, shared land areas with surrounding municipalities, citizen behavior, state affairs, etc. (Flyvbjerg, 2006)

Theoretical Framework 4

This section contains a description of the theoretical framework, based on the theories explained in the previous section. The intention is therefore to provide an overview of the theories used to answer which sub-question, the approach for this, as well as how the outcome will contribute to the project. An illustration of this framework can be seen in the figure below.

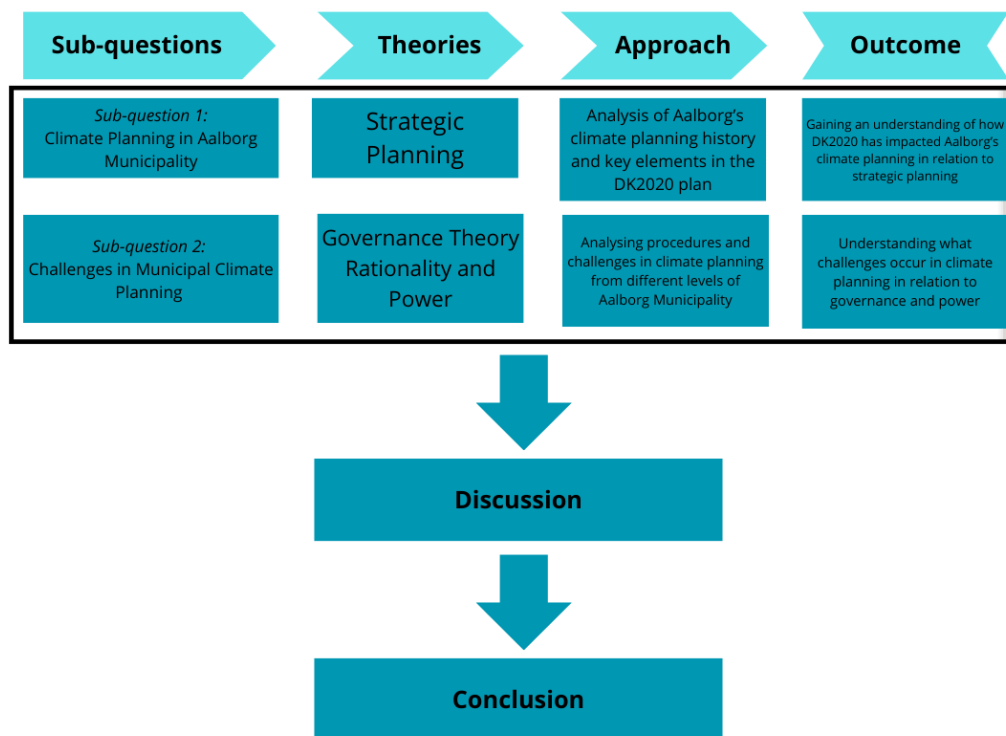


Figure 4.1. Theoretical framework, own production.

The project has been divided into two different parts, where each will answer one of the sub-questions. The first sub-question is concerned with the DK2020 plan, and the strategies and visions in it, as this will be compared to previous climate planning in Aalborg Municipality. The theory of strategic planning has therefore been deemed most relevant in answering this sub-question, with a focus on the three levels of mega-planning, macro-planning, and micro-planning, as described by Kaufman. While the theory of strategic planning also support the understanding of planning over time and how the approach towards climate in Aalborg Municipality are changing. For the second sub-question, the theories of governance and power, by Stoker and Flyvbjerg respectively, will be used in order to identify certain structures, relations, and other mechanisms which challenge the municipality from reaching its climate goals and decision-making. The main theories of stragic planning and governance theory work separately, to gain different understanding in Aalborg Municipality, while power and rationality is used as a supplement to describe actors power relation in the context of governance. Despite the theories working separately, it still gain a gathered understanding of the process in Aalborg Municipality, which will enable an understanding of how DK2020 has changed the planning outcome and which problem that occur for the Municipality in decision-making process by struggling to implement climate solutions. The theoretical framework is used in relation to the data collected from the methods as explained in the following chapter.

Methodology 5

This chapter is aiming to show the methodological approach used in this project. The intention is therefore to explain the methods of data collection which have been used to answer the research question *How can Aalborg Municipality better adapt the climate planning process to physical planning?*, as previously shown. Furthermore, a section containing the framework for the methodology, that is theory of science, will be explained as the first thing. In the end, a research design will be introduced with the intention of showing the general structure of the research.

5.1 Theory of Science

The research carried out in this report will be done so through the lens of critical Realism. This theory will be further described in the following sections in terms of ontology and epistemology as well as how it affects the research for this report.

5.1.1 Critical Realism

The theory of critical realism is concerned with the often-hidden aspects which are the cause of certain events and circumstances to take place. It is defined by Liv Egholm as "*the underlying structures that shape the way in which the world works*" (Egholm, 2014). The intention is therefore to shed light on these structures with the aim of discovering why these create certain opportunities, challenges or other situations within the studied phenomenon (Egholm, 2014). In this case, the studied phenomenon is the process concerning climate planning and the different actors involved, and the aim will be to identify the mechanisms which are causing the people and organizations to act and plan the way they do. As in relation to the above-mentioned, it is assumed within critical realism that there is an objective reality, this being the underlying structures, which exists independently. Simultaneously, this means that the world which can be observed, typically through events, will always have an element of subjectivity to it, as it is the researcher's social interpretation of these events which shapes the research (Egholm, 2014).

Ontology

Within the studied phenomenon, ontology occupies itself with: what is the world composed of? (Farthing, 2016) In other words, it asks the question of what can be assumed about the world. As briefly mentioned above, critical realism assumes that there are structures and

mechanisms which exist on their own, despite the inability to observe them. Therefore, the ontological aspect within critical realism can be said to consist of two dimensions. One of these is the real world with the unobservable structures. The other is the actual world which can be observed through different events, caused by the structures in the real world (Egholm, 2014). The aim of the research lies therefore in examining the relationship between the real and the actual world. For this paper, it means that the observable events and phenomena are things such as decision-making processes, prioritization within climate and physical planning, organizational hierarchies, etc. which are caused by these aforementioned structures and that we intend to investigate in the later analysis. However, it must be mentioned that these structures are simply assumed to exist but can never truly be observed in a fully objective manner. Instead, it is through our social interpretation that these assumptions are made.

Epistemology

As for epistemology, it is concerned with: what can we know about the world? (Farthing, 2016) Within the field of critical realism, the gap between the real and the actual world suggests that the only way to know something about the world is through what is called the empirical level. This level is where events can be observed, and thus makes them open for interpretation (Egholm, 2014). Again, this means that any research around this phenomenon can never be fully objective and true as data processing, choice of methods, analytical scope and all other decisions will be a product of our values and preferences and thereby result in personal interpretation. This is an important aspect to be aware of when conducting research as it becomes inevitable that a certain bias will exist and shape the analytical findings. Furthermore, this means the research can only explain parts of the structures from the real world but not say something about this reality as a whole. The empirical level in this paper is expressed through data collection about planning processes, and how different actors and organizations operate and work with climate initiatives and strategies.

5.2 Case study

As the intention with this report is to analyze and understand certain mechanisms in relation to power structures, project planning as well as decision making processes within Aalborg Municipality, a case study will be the basis for the research. As Bent Flyvbjerg states in his article *Five Misunderstandings about Case-Study Research*, a case study allows for a more in-depth understanding of a phenomenon such as structures and processes within an organization (Flyvbjerg, 2006).

The case study will, as mentioned above, investigate Aalborg Municipality as an organization in terms of collaboration, both internal and external, power structures, decision making processes, and an overall planning approach. The scope will focus on climate planning, mainly in relation to the municipal plan DK2020 as the current strategies

and visions for the future. The choice of analyzing climate planning was made due to its increasing focus and visible effects in the overall environment. However, despite the wickedness of the problem it seems that climate initiatives are often difficult to realize in the physical planning, often due to other priorities. It is therefore relevant to investigate an organization such as Aalborg Municipality and how they work with climate planning, as the problem suggests there are difficulties in how organizations are structured, operating, and thereby making decisions. The municipality of Aalborg was then deemed relevant due to the size of the organization with many different departments and actors involved. Furthermore, the history of Aalborg as an industrial city makes it an interesting case, as there has been a shift from heavy pollution to a climate focus, most notably in 1994 when hosting an international climate conference. It is therefore interesting to investigate if planning processes are still characterized by this former identity, or whether the city has managed to transition into the sustainability paradigm completely. Additionally, Aalborg represents an average city of bigger size which is a heavy contributor to pollution and usually has more problems with climate changes such as flooding, noise- and air pollution as well as lack of green spaces than smaller cities (Euronews, 2023).

As Flyvbjerg mentions, case studies are good for generating knowledge which can be generalized (Flyvbjerg, 2006). This implies that if a city in Denmark, Scandinavia, with the lowest corruption index (Review, 2024) as well as being a front runner in climate and sustainability, is experiencing difficulties, then any data generated from this research is easily relatable to any given city. The case study is thus aiming to provide knowledge, through Aalborg Municipality, about how an organization is working with climate planning. The use of case-specific data is meant to create indicators for which mechanisms, interests and other potential underlying factors are complicating the process of realizing climate initiatives.

5.3 Methods

In this section, the methods deemed relevant for data generation will be presented and explained. The methods include mostly interviews with people from different levels of Aalborg Municipality as well as a single expert from a private company. Planners and politicians from other municipalities have also been interviewed, and will be described briefly, as the data collected from these will not play a significant role in the later analysis. Finally, a document analysis has been conducted, analysing relevant text-based documents such as the municipal DK2020 plan.

5.3.1 Document analysis

Document analysis has been used in this project as a central method from which the analysis revolves around. The essence of this research takes its point of departure in the municipal climate plans, DK2020, created by Concito, RealDania, as well as other actors. This means the DK2020 plans laid the foundation of knowledge in terms of municipal

climate goals and strategies which were used later in the analysis. The strength of using document analysis as a method is how it can be easily combined with other methods as well. Additionally, the easy access to a broad spectrum of available information such as climate plans and scholarly articles makes it an effective method when doing research (Bowen, 2009). For this research, document analysis has, as mentioned before, been used to gain an understanding of Aalborg Municipality's climate goals, strategies, and other key points in relation to this topic through the DK2020 plan. Furthermore, other relevant data has been documents providing a historic perspective on how climate planning was carried out, before the DK2020 plans were adopted. Such documents are the The Aalborg Charter, Planstrategi 2011, and Bæredygtighedsstrategi 2013. Other documents have been used as well, and an overview will be given later in this chapter.

In terms of weaknesses, the use of document analysis can cause a certain bias within a report. This is due to the researcher deciding on which documents to include and analyze, and which to exclude. In this case, this could entail focusing mainly on climate plans and their potential effects, while leaving out documents that criticize such approaches. The documents selected have been chosen in the case of climate planning surrounding Aalborg Municipality, where some of them are policies and plans which can limit the knowledge of the planning process, as they might emphasize certain aspects of climate planning while downplaying others, based on the priorities of the author. Furthermore, as data collected from document analysis comes in written form, the outcome of the research thereby comes down to how the researcher reads and interprets these documents (Bowen, 2009). As a way to ensure as much validity as possible when analyzing different documents, the original purpose of the documents is taken into account. This means that each document will be analyzed through the lens of the organization which has published it, thus being aware of potential interests or agendas from these. Additionally, by researching different documents on the same subject, this ensures a more detailed and transparent data collection, as a single document might not be sufficient in explaining a topic fully. An example of this could be analyzing Aalborg Municipality's DK2020 plan along with documents published by Concito in order to get a better overview of climate challenges and visions. The table below shows each document and its purpose for analyzing within this research paper.

Documents selected	Purpose
Aalborg Climate Plan: DK2020 (Aalborg, Municipality, 2022)	<ul style="list-style-type: none"> Understanding the structure of DK2020, key aspects the municipality will focus on, as well as strategies for reaching their goals
Planstrategi 2011, Norddanmarks Vækstdynamo (Aalborg, Municipality, 2012)	<ul style="list-style-type: none"> To see how climate planning was integrated in older planning strategies
Bæredygtighed, Hovedstrukturen 2013 (Aalborg Municipality, 2013)	<ul style="list-style-type: none"> To point out the main elements in previous climate planning to better understand where DK2020 is different
Aalborg Charter 1994 (EU, 1994)	<ul style="list-style-type: none"> To see how Aalborg Municipality, in cooperation with other actors, laid out the foundation to their climate planning
10th European Conference on Sustainable Cities and Towns (EU, 2024)	<ul style="list-style-type: none"> To get an overview of current focal points and strategies between Aalborg and other international actors

Figure 5.1. Documents chosen for analysis, own production.

5.3.2 Interview

The next section will introduce the interview method which, in this report, has been used to interview planners and politicians within Aalborg Municipality along with an external person from the company, NIRAS. For all interviews conducted, the structure has been that of the semi-structured form which is described below. This method has thereby been used in combination with the document analysis, each providing knowledge which has affected the approach of the other throughout the project. This means the DK2020 plans laid the foundation of knowledge in terms of municipal climate goals and strategies which were used later in the interview method, whereas the interviews opened up angles which pointed to new documents to be studied

Semi-structured interview

The semi-structured interview has been used to gain insight into how Aalborg Municipality is working with climate planning. The interviews have thereby acted as a supplement to the document analysis in order to acquire deeper knowledge about how climate goals and

strategies are being implemented and worked with on different levels and departments of the organization. As a way of structuring each interview, an interview guide was made prior to each meeting. The guides all had different subjects with questions pertaining to these, thus acting as support for the interviewer to not lose track of the conversation as well as being able to remember the questions which had been prepared (Kvale and Brinkmann, 2009). Some of these interview guides were sent beforehand to those of the interviewees who asked for it as a way to being better prepared for the questions, perhaps coming up with more structured answers. Others were simply introduced to the questions on the spot, thus perhaps responding a bit more unstructured but authentically. The semi-structured form also allowed interviewer to pose follow-up questions in case the interviewee had elaborated on a theme, and thus presenting new interesting angles (Kvale and Brinkmann, 2009). An example of an interview guide can be seen in figure 10.1 in the appendix.

Due to the interviewers being located in Aalborg and Copenhagen respectively, all interviews were done through the online program, Microsoft Teams. An advantage of doing online interviews is that they can be held easy and effortlessly with people from anywhere in the world (Kvale and Brinkmann, 2009). In this case, interviews have been conducted with people from almost every region of Denmark without the necessity of travelling to any of the physical locations. Thereby, a significant amount of data can be collected in a relatively short period of time, thus ensuring more effective work. On the contrary, an issue which can occur when performing online meetings is a missing personal aspect. The act of not being physically present and face-to-face leaves out details such as emotions, gestures, and general body language which can potentially decrease the level of comprehension between the people when posing and answering questions (Kvale and Brinkmann, 2009). Furthermore, the limitations towards the interview persons can be related to response bias, where the these provide socially desirable answers of what they think the interviewer wants to hear. In the case of Aalborg, the chosen interviewees can potentially downplay organizational problems, overstate climate measures, or only describe the positive aspect of the planning process (Riis, 2005). Lastly, the process of translating interviews conducted in Danish to English further increases the risk of losing validity, as words and phrases can not always be translated directly. This can therefore result in misinterpreted quotes and meanings when analyzed.

After conducting the interviews, thematisations were made for each one of them as a way to create an overview of what was said, without having to transcribe all of it. Instead, certain themes are marked with timestamps throughout the interview in terms of what is being discussed, often recognized when the interviewer poses a question. An example of a interview thematisation can be found in figure 10.2 in the appendix.

Below is a list of the people interviewed, their field of expertise, as well as why they have been chosen for this project.

Lasse Frimand Jensen, Mayor of Aalborg The group succeeded in getting an interview with Lasse Frimand Jensen, who is currently the mayor of Aalborg, and a

member of the political party, Socialdemokraterne. The interview was conducted on the 17th of May. Before taking over the position in 2023, Jensen had previously been a member of the city council for nearly 10 years, additionally carrying the role of climate spokesperson. Besides the influence and involvement the position of mayor brings with it, Jensen was also deemed relevant due to his previous and current work with climate, some of which have been his political agendas during elections. The purpose of this interview was to gain insight into how climate planning takes place at the very top level of Aalborg Municipality. This is both in terms of how Jensen is involved in climate planning, how decisions are conveyed further down the organizational levels, as well as how communication and collaboration take place between the mayor and politicians in the government.

Lasse Puertas Navarro Olsen, City Council Member Lasse Olsen has been a member of the city council since 2014, and represents the political party, Enhedslisten as group chairman. This interview was conducted on the 5th of May. The intention with this interview was to get a deeper understanding of how politicians in the city council make decisions, prioritize different agendas, and generally how politics affect the creation of climate initiatives and strategies. Olsen's former title as councillor within the municipal department of Climate and Environment made him an obvious choice in terms of illuminating how climate planning is carried out, and the typical issues which is related to this aspect. Furthermore, and as with Jensen, the political angle was intended to provide knowledge on the level of coordination that takes place between the politicians and the lower levels which are to implement the decisions and strategies made.

Jesper Hansen, Climate Coordinator Jesper Hansen works as climate coordinator within Aalborg municipality. The interview took place on the 11th of April. The job as climate coordinator is a relatively new position, established with the primary intention of creating better coherence between the different departments. While working within the department of City and Landscape, Hansen's position requires him to act as a link between all municipal departments, thus being in close contact with multiple representatives with different specialties. This made him a relevant actor to interview, as he can be said to have a foot in each camp, that is being a mediator between planners and politicians. His knowledge was then meant to shed light on the aspect of coordination, and how the municipality intends to go from idea to implementation.

Mette Valentiner Nielsen, City Planner Mette Nielsen represents the physical planning aspect in this project, as her work consists of creating local plans for projects in the field of Urban Development and Construction, a subsection within the department of City and Landscape. The interview was conducted on the 19th of April. As a physical planner, her job represents the implementation part as a means to realize the decisions and strategies which come from the political level. The purpose of interviewing her was therefore to gain a better understanding of how an individual works and carries out procedures within the organizational structure. Furthermore, her role as the final part before implementation was meant to show the level of cohesion from when climate

strategies are made at the top level to how effectively they are conveyed and carried out by the individual planner.

Anja Wejs, Market Director at NIRAS Anja Wejs works as market director for climate adaptation within the company NIRAS, a consulting engineering firm. This interview was conducted on the 30th of April. The purpose of this interview was to obtain a perspective on Aalborg's climate planning from an external actor, whereas NIRAS being a client of the municipality made her eligible for that. As a contributing member to the DK2020 plans, she possesses great knowledge about the initial ideas and procedures leading up to the municipalities adopting these climate plans. Additionally, her experience was meant to provide information about the difficulties of implementing such plans as well as other potential barriers or aspects which might be easier to identify for someone working outside of Aalborg Municipality.

Other interviewees A list of other people has been interviewed as well during the course of this project. Most of these interviews were conducted in the initial phase before a direction for the research was fully decided, that is choosing to focus on Aalborg Municipality. Therefore, the data collected from these interviews ended up becoming less relevant in relation to this project. However, certain subjects and angles discussed with these interviewees did act as inspiration, thus influencing later interview guides made for the people in Aalborg, whereas it is felt that a brief introduction of these people is in order. Firstly, two planners were interviewed from Novafos, a company located in the northern part of Zealand that specializes in water treatment. This is both household- and sewage water, as well as precipitation. Later on, climate planners from the municipalities of Aarhus and Vejle were interviewed in relation to their visions, challenges and approaches. Lastly, city council member of Odense Municipality, Tim Vermund, was interviewed with the same purpose as for the politicians in Aalborg.

The figure below shows an organizational chart of Aalborg Municipality with the intention of providing an overview of the different interviewees, and where they are located.

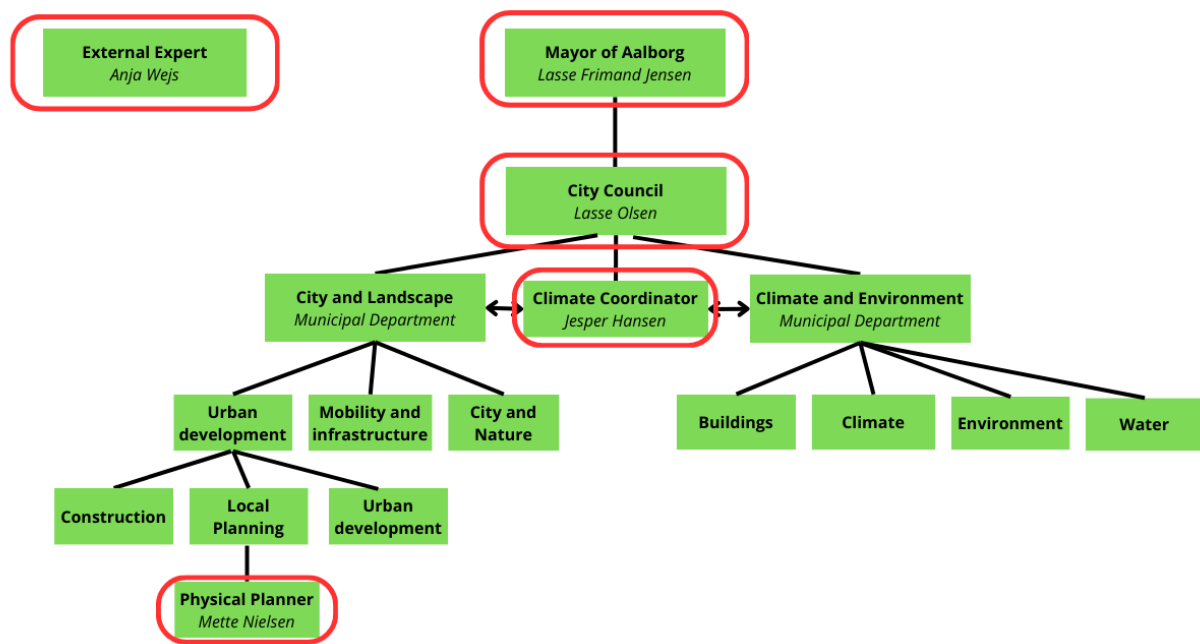


Figure 5.2. Interviewees within an organizational chart, own production.

The figure shows an organizational diagram of Aalborg Municipality as well as the different people who have been interviewed, and whose quotes will be used later on in the analysis. The intention has been to interview a person from every level in Aalborg Municipality as well as an expert from outside of the organization.

5.3.3 Method Triangulation

Method triangulation is a method that can be used to understand how different methods compliment each other in the data collection. The triangulation can be applied to both quantitative and qualitative analysis, thus depending on which methods has been used for the project. Method triangulation can be said to be used when the project concerns more than one method (Brinkmann and Tangaard, 2020). The goal of integrating method triangulation is to enhance validity and reliability of the research case by combining different data collection and analytical approaches. This strategy allows the researcher to cross-verify and confirm their results, reducing the potential for bias and increasing the reliability of the conclusions (Brinkmann and Tangaard, 2020). The use of method triangulation helps to provide an overall picture of the amount of data found in relations to the case and the issue stated in the project. Furthermore, it is described that method triangulation is a designation of making multiple examination and discoveries to describe the same issue concerning in the project (Brinkmann and Tangaard, 2020).

In this thesis, method triangulation has been used to combine document analysis and interviews. Method triangulation makes sense in this thesis because these methods work closely together in the gathering knowledge. Therefore, it will strengthen the thesis to use the two methods in combination to create broader knowledge and complement each other.

Document analysis can therefore be said to have created a baseline of knowledge concerning climate planning. This knowledge played a role in forming interview questions later on, whereas data collected from these interviews led to the analyzing of new documents. This type of process is how these two methods have complemented each other.

Case Description 6

The aim of this chapter is to explain the chosen case. This entails a brief history of Aalborg and its transformation from industrial city to more knowledge based. Furthermore, the main elements from the municipal DK2020 plan will be described in order to showcase which goals and visions Aalborg is working towards in terms of climate planning.

Something that has characterized the city of Aalborg over many decades has been the amount of industry present. At the end of the 19th century, the cement industry grew rapidly in and around Aalborg due to great amounts of limestone and clay in the ground, an industry which has persisted till today, being one of the only ones left from that era (Bender, 2008). The increased economic activity caused by this, attracted other industries later on such as textile, foundries, alcohol, and tobacco factories, whereas Aalborg in time became known as *The city with the smoking chimneys* (Madsen, 2016). This also meant an incredibly tough working environment in terms of pollution and other factors harmful to health, likely making it one of the least sustainable or climate friendly cities in modern terms (DenDigitaleByport, 2012). From around the 1970's and onward, the industrial culture of Aalborg has slowly been phased out and instead replaced with cultural and knowledge based institutions. An example of this is the waterfront area, previously housing numerous industries and warehouses, whereas today it is home to Aalborg University, a musical theater, restaurants, and other recreational activities. It is not until the beginning of the 2000's that most industrial factories have been closed, meaning that the majority of the workforce occupies service or knowledge based professions (DenDigitaleByport, 2012). This therefore indicates that climate planning has not been a prominent aspect, and is a relatively new thing within Aalborg Municipality, as industries with heavy pollution have been the central element in the city's development up until recently. The area of Aalborg Municipality can be seen in the figure below.



Figure 6.1. Aalborg Municipality's location in Denmark, Google Maps

To understand how the thesis will investigate municipalities and climate planning, figure 6.1 of the planning hierarchy explains the different levels of planning in a Danish context (Munk-Hansen, 2015). This has been made to understand the different hierarchical levels established in Denmark and in the planning act. The planning hierarchy has its purpose to regulate the planning process in order to create cohesion and understand who has the responsibility for planning. The planning hierarchy also has a legal basis in the planning act (LBK nr 287). The figure shows that the thesis will mainly look at the planning level of Municipal planning and local planning, to enhance the understanding of how Aalborg Municipality navigates through the planning process, but also how the two levels of Municipal planning and local planning interact in the organisation.

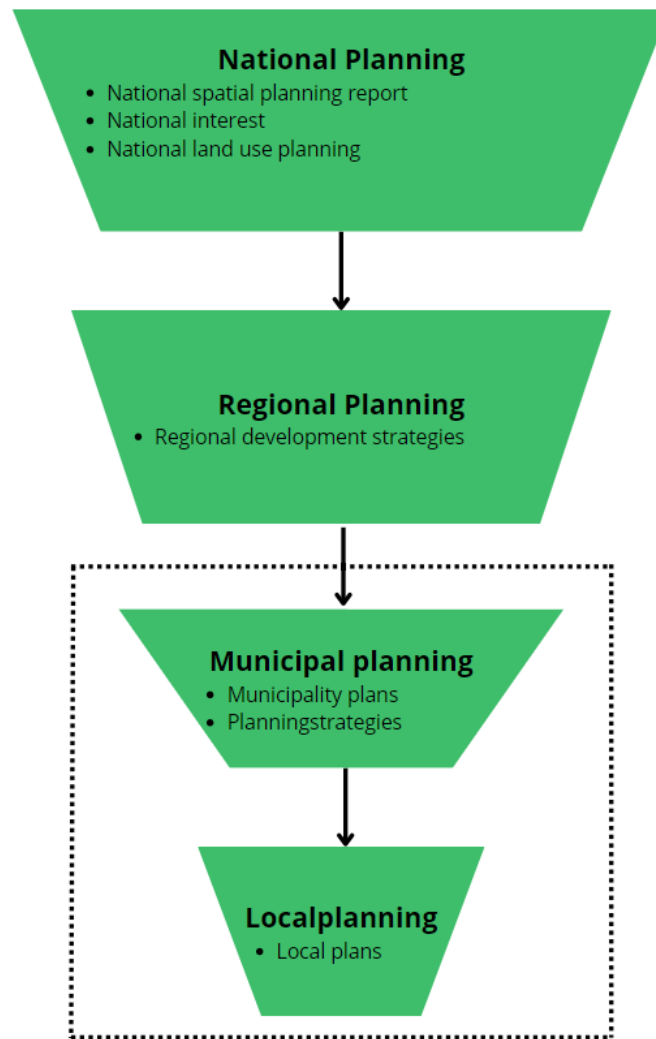


Figure 6.2. Different planning levels, own production (Munk-Hansen, 2015).

6.1 Aalborg's DK2020 Plan

The case description will look into the key concepts and visions found in Aalborg Municipality's DK2020 plan. Due to the adoption of this framework and its overall goals, which was made by external organizations in a cooperative effort, the level of similarity in Aalborg's plan compared to other municipalities' is quite high. This means that overall key areas have been identified as well as certain efforts that need to be done in order to create more sustainability within these areas in the future. These areas will be explained below. Firstly, it is seen how the DK2020 plan has an overall goal of climate neutrality in the year 2050 (AalborgKommune, 2020). This entails that the total balance of greenhouse gas emissions is zero. Furthermore, the plan has a sub-goal of reaching a 70% reduction in emissions in the year 2030 (AalborgKommune, 2020). It is thus seen, how the DK2020 plan is almost exclusively focused on the reduction of emissions, and not so much on other aspects such as cleaner air, water, soil, and a strengthened biodiversity.

The climate plan has then been divided into six different categories, each one containing different strategies, efforts and statistical goals for measurement. These categories are *Energy Supply*, *Transportation*, *Agriculture and Nature*, *Industry*, *Urban Development and Construction*, and *The Municipality as Organization* (AalborgKommune, 2020).

The first sector, *Energy Supply*, is one of the most impactful in terms of emissions. This is due to much of Aalborg's energy consumption coming from 'Nordjyllandsværket', a power plant that still uses coal to produce heat and electricity for the different households. The main goal within this area is therefore to phase out the use of coal, thus closing the plant no later than 2028. Other key points are CO₂ capture and Power-to-X, as well as establishment of windmills and solar panels (AalborgKommune, 2020). The municipality intends to realize these goals through partnerships with mostly utility companies and private companies, e.g., using excess heat produced or creating new heat production technologies.

The second area, *Transportation*, is an area with an increasing amount of CO₂ emissions within Aalborg Municipality. This is due to more cars on the road, fewer bicyclists, as well as less public transport taken. In the past, urban planning within Aalborg was heavily focused on car traffic, thus creating suitable infrastructure to accommodate this. The municipality acknowledges that it is not possible to completely remove fossil fueled transport in the near future. This is partly due to there only being two connections between Aalborg and the northern parts, which means Aalborg becomes a thoroughfare for many people. Still, their goals are to provide better alternatives to car traffic, such as improved public transport and bike paths. Additionally, they intend to make it more complicated for cars to get around. This is in terms of potential car-free city zones and lower speed limits, thus promoting alternative transportation options. (AalborgKommune, 2020)

For *Agriculture and Nature*, a main element in reaching the goals is extraction of carbon-rich lowlands. This means designated natural areas are to be restored to their original state, as they have the potential to absorb heavy amounts of CO₂. Furthermore, the municipality wishes to plant trees and forest areas in certain agricultural areas where possible. These visions entails creating partnerships with the agricultural industry, as they require the municipality to purchase property if such synergetic effects are to be accomplished. (AalborgKommune, 2020)

The area concerning *Industry* can be said to be the most polluting of the six. This is one of the areas where Aalborg's DK2020 plan differs from most other municipalities in the country, as the company of Aalborg Portland is located on the outer brink of the city. The cement factory can be said to be more than a heavy contributor of CO₂ emission, as it is by far the most polluting industry in Denmark (Lund-Hansen, 2022). As they are also an important element in Aalborg's industry and business sector, it could therefore be a complicated matter to reduce CO₂ or put other restrictions on it, as it could potentially hurt the income in the end. As mentioned in the DK2020 plan, the municipality relies on Aalborg Portland themselves to reach their goal of lower emissions. Whether Aalborg

Portland succeeds in their goals will therefore have a great impact on the municipality reaching their goals as well.

In *Urban Development and Construction*, the municipality describes their vision for future urban planning. The main element consists of the 15-minute city, where people in general are in close distance to the functions and institutions necessary for sustaining life. The goal is therefore to create a more dense city and minimize urban sprawl, thus resulting in less transport, less energy used, more green areas, etc. Furthermore, the intention is to use more recyclable materials, encouraging sustainable construction and a more circular-based economy. (AalborgKommune, 2020)

The last section, *The Municipality as Organization*, is concerned with sustainable initiatives happening inside the municipality. From the plan, the overall goals are seen to be making all municipal buildings more climate friendly. This entails higher building standards, renovation, green energy, and lighting. Additionally, they intend to replace polluting vehicles with greener choices. Other strategies include the promoting of environmentally friendly behaviour, products, and food policies.

Climate Planning over time

7

The first part of the analysis will answer the sub-question *How has the DK2020 changed Aalborg Municipality's approach towards climate planning?* The aim is to show the effect DK2020 has had on the municipality's way of planning. In doing so, the theory of strategic planning will be used in terms of mega-, macro-, and micro planning to explore the level of impact the DK2020 plan has had on the strategic approach at each municipal level.

7.1 History of Climate Planning in Aalborg Municipality

On the 9th of November 2020, the city council decided that Aalborg Municipality should join the recently established national alliance called DK2020. This constitution meant they had to adopt and implement climate planning in a new way. Therefore, Aalborg Municipality had to conduct research and adopt new climate strategies in order to align with the DK2020 overall goals, saying that by 2030 there should be a 70 percent reduction in CO₂ emission, while reaching complete CO₂ neutrality in 2050 (Aalborg Kommune, 2022). With the DK2020 plan as a framework, Aalborg Municipality's action climate plan had to follow strict rules and guidelines, in order for the plan to be approved by Concito and C40. This made Aalborg Municipality's climate plan fairly similar to the visions and strategies found in other municipalities in Denmark. The overall goals for climate planning between municipalities can be said to have been made beforehand, due to the DK2020 having very precise and concrete topics that followed the guidelines from the Paris Agreement (Aalborg Kommune, 2022). As mentioned, the implementation of the DK2020 climate plan is a recent event in the history of Aalborg Municipality. While climate has become more nuanced and gained an increased focus due to this plan, the aspect of climate planning also took place before this adoption. The following sections will describe previous climate strategies and visions in Aalborg Municipality with the purpose of later identifying where and how the DK2020 plan differs.

7.1.1 Aalborg Charter 1994

As mentioned in the case description, The Aalborg Charter was the first work concerning climate planning that the municipality agreed to work upon. The Aalborg charter was built on the foundation of mutual agreement as part of an international conference held in Aalborg in 1994, hence the name. This meant that cities around the world acknowledged the need for change, and that they had to adopt a new planning pattern. This introduced climate planning with the intention of coming up with solutions towards climate change,

preventing increasing temperatures, and reducing the CO₂ emissions. As in contrast to DK2020, the aforementioned climate actions would simply be described somewhere in Aalborg's municipal plan, explaining their planning philosophy and priorities. The plan was, however, very broad and rather unspecific in terms of what cities needed to do to meet these goals. The Aalborg Charter concerned three parts on how cities should develop and work in a more sustainable manner in the future (SustainableCities, 1994). The first involved a consensus declaration for sustainable European cities (SustainableCities, 1994). This consensus declaration were signed by over 40 countries, where more than 2800 cities were committed to the work (EU, 1994). This outlined a shared vision and principle for sustainable development, including the integration of sustainability into urban planning, increasing citizen participation, and thereby promoting social justice and environmental protection. Main points identified for future sustainable work were water, soil, urban parks, buildings, and environmentally friendly transport (SustainableCities, 1994).

The second part of The Aalborg Charter was the intention and agreement between signatories to develop local long-term plans, which were to be assessed at the following conference two years later. It was a campaign that was designed to promote and support the goals and principles first established. The main priority was to be a platform for European cities and municipalities to share experiences, best practices, and promote collaboration on sustainable development. This was also made to engage more cities into the work of sustainable urban planning.

The third part, also known as *Local Agenda 21*, refers to specific local initiatives and strategies developed by cities and municipalities to implement the principles of Agenda 21, which are mentioned below. Local Agenda 21 involved development action plans, focusing on sustainable development through collaboration between local authorities, citizens, businesses and other stakeholders. Local Agenda 21 had its goal to address local environment, as well as economic and social challenges in order to make it more comprehensive for each city and municipality to work with sustainability.

By being member of the Aalborg Charter, each city thereby committed themselves to create local plans that was in alignment with Agenda 21. Therefore, Aalborg Municipality also made their own local plan concerning climate change and integrating sustainability in urban planning. This plan concerned eight different topics in relation to sustainability:

- Incorporation of existing frameworks for planning and economy, as well as other plans and programs,
- Systematic identification of problems and their causes through comprehensive public consultation
- Prioritization of tasks aimed at solving the identified problems,
- Establishment of a vision for a sustainable society in collaboration with all sectors of society
- Discussion and assessment of alternative strategic options
- Development of a long-term local action plan for sustainability, including measurable

objectives

- Programming of the plan's implementation, including the preparation of a timeline and a statement of responsibilities,
- Development of systems and procedures for monitoring and reporting on the plan's implementation

(SustainableCities, 1994)

As this was the first plan that defined how cities should rethink urban planning in relation to climate, Aalborg Charter can be said to be a defining moment in trying to revitalize cities around Europe. However, later statistics showed that Aalborg Municipality were unsuccessful in meeting the demands and goals from Aalborg Charter. In 2001, it became clear that there were too many obstacles for Aalborg Municipality to implement and work with Local Agenda 21. It could be concluded that besides all the positivity around Aalborg Charter and the future work Aalborg Municipality had been mapping out, they were not able to make a local plan according to the goals of Agenda 21 (Christensen, 2001). It is described at that time how politicians from Aalborg had presented a third Limfjord connection, something that would interfere with the Local Agenda 21 work (Christensen, 2001). As the proposed Limfjord connection caused an uproar amongst citizens in Aalborg, the municipality focused on how to deliberately change the outlook so that it could be seen in a more positive way than before, whereas it took away the focus of creating a Local plan regarding sustainability (Christensen, 2001). However, from the period of 1997-1999 Aalborg Municipality adopted a number of sub-plans called *Trafik og Miljø*, *Grønt Katalog* and *Fjord Katalog*. These three sector plans were meant as an alternative to the Local Agenda 21. However, these sub-plans ended up focusing on different sectors, thus missing the original intention of climate planning. It was not until the beginning of the year 2000 Aalborg began working with Local Agenda 21, which was called *Den Grønne Redegørelse*. It was argued that the municipality only began working with an overall climate plan due to the planning act of 2000 establishing new regulations for climate work in municipalities, thus forcing Aalborg to implement measures from Local Agenda 21 (Christensen, 2001). In general, The Aalborg Charter can be said to have laid the foundation for later climate planning, but did not help Aalborg to adopt and implement the strategies they had wished for. Additionally, it was stated how the name became an embarrassment due to Aalborg Municipality failing to integrate and work towards the goals mentioned in the plan that was named after the city (Christensen, 2001).

7.1.2 Plan and Sustainability Strategy 2003

As mentioned above, the sustainability strategy tried to follow up on the initiatives from Local Agenda 21. This included a description of the municipality's visions, assessments of alternative strategies, and development of a long-term plan with measurable goals (Christensen, 2001). This plan was one of the first to accommodate sustainability and present alternative strategies. At that time in 2003, it seemed to be revitalizing, but comparing it to DK2020, it contains unspecific guidelines for implementing sustainable

solutions. Despite the plan being called *sustainability strategy*, the description and focus on this topic had other priorities than simply climate. The plan had its focus on three different branches of sustainability; economic, social, and environmental, which they describe as being a common understanding of the word *sustainability*. However, it is clear that the focus was mainly on growth, as the main initiatives were things such as how Aalborg could introduce new buildings, transportation systems, highways, promote business development, and make Aalborg bigger in international perspective. Despite talking about the city needing to reduce CO2 emissions and better prepare for extremer climate conditions, it seemed that the economic and social perspectives had a larger focus, and the whole environmental perspective being neglected (AalborgKommune, 2003).

7.1.3 Planning Strategy 2011-2020

In the period between 2011 and 2020, Aalborg Municipality had a number of different strategies, each with a different focus and level of climate action. In 2011, Aalborg Municipality presented a new planning strategy with four overarching pillars for the development of the city (AalborgKommune, 2012). These were business and employment, environment and sustainability, rural areas, and urban infrastructure (AalborgKommune, 2012). It quickly became evident that the strategy had once again a large focus on growth, where a central element was *the growth axis*. This was the foundation, meaning that all planning would return to this point, and that other strategies had to be in alignment with the growth aspect, including climate planning. In relation to the focus of the 2011 planning strategy, concerning growth and sufficient economy in the city of Aalborg, three topics were introduced, deemed important for the future. These were; *Necessary connection*, *A good place to live*, and *The attractive city*. This plan did enhance some sustainable solutions towards e.g transportation and green areas, while also expressing the importance of working with and incorporating sustainability into the everyday city. Despite this statement, the strategy seemed to cause certain conflicting topics, as it was seen how they tried to introduce various large construction projects, requiring heavy resources, such as a light rail project along with a third Limfjord connection, all while simultaneously wanting to promote cycling within the city. While the plan broadly explains the importance of these initiatives, there is no formulation of strategy or timeline for implementation. At the same time, climate adaptation is mentioned as something that will be addressed, but it is not explained how. Overall, it showed how various aspects of climate planning were neglected in the 2011 plan strategy, with more focus on the larger projects which would create progress and growth. These aspects were added later on, as explained in the coming section.

In 2013, the municipality made a revision of the existing municipal plan, as described, updating and adding certain points and topics related to climate. The purpose of this revision was to *secure a high level of environmental protection* (AalborgKommune, 2013) by screenings and assessments of certain programs, which could have a positive impact on the environment. As mentioned in the plan, *it is a very general and strategic planning*

tool, whereas the environmental assessment has been done on a general level as well (AalborgKommune, 2013). The different climate elements are thereby mentioned in the plan but not described further in detail, e.g., through strategies explaining how to secure an implementation of these. This is partly due to some of these focus points being introduced for the first time into physical planning as part of a climate strategy such as biodiversity, agriculture, and renewable energy, as stated in the plan (AalborgKommune, 2013). Looking at an element such as climate adaptation, the plan explains how:

The intention is that climate changes, such as heavy rainfall and rising groundwater must be considered in the future landscape. The goal is that areas in the open land, affected by high groundwater levels, should be left to the free dynamics of nature (AalborgKommune, 2013).

The description of this point in the plan shows that there is a general awareness of the problems relating to flooding, and that it needs to be more integrated in the physical planning. However, as mentioned, the plan does not go into detail in terms of how to realize it. The same can be said of the other elements such as climate prevention, recreational values and areas, as well as sustainable transport. Just as the original plan from 2011, this one also centers around the topic of the growth axis, where this contains more strategic elements and detailed descriptions.

In the year of 2018, before Aalborg Municipality adopted the DK2020 plan, they had adopted the Sustainable Development Goals (SDG's), created by the UN. This strategy simply introduced how to work with these SDG's in planning. With this strategy, Aalborg Municipality would use the SDG's as a foundation for future planning within the organisation, as key elements in terms of climate and environment, along with other aspects as well. The SDG's strategy was not intended as a plan for the municipality, but rather a strategy that shows which key elements to work with in urban areas (AalborgKommune, 2021).

The following figure will outline a time frame for climate planning in Aalborg Municipality, from the beginning in 1994 till today.

7.1.4 Timeline for climate planning

From the section above, it shows that Aalborg Municipality have worked with climate solutions before the implementation of DK2020.



Figure 7.1. Timeline for climate planning in Aalborg Municipality, own production.

The timeline gives an overview of how Aalborg Municipality has been doing climate planning up until the implementation of DK2020. Here, it is seen how they began in 1994 with The Aalborg charter, and then later on introduced new climate plans, strategies, and revisions. This shows that climate planning is not a completely new concept within Aalborg Municipality, despite DK2020 being a new way of structuring climate planning. From the timeline it can also be seen that a lot of the work Aalborg Municipality has done, can be traced back to The Aalborg charter. Despite several plans and strategies, the focus on climate seems to be similar, where the first plan in the beginning of 2000 are missing overall goals and strategies on how to implement some of the presented solutions. Where in the sustainability strategy from 2003, it seemed that prioritization in planning was still concerning growth and economic stability, and where climate and sustainability actions did not have the same focus. Despite Aalborg describing their plans as a *sustainability strategy*, it concerns three different levels of sustainability; *economic, social, and environment*. Here, it is clear that focus is on economic sustainability, as there is only one page dedicated to climate solutions, and where there is no identification of any goals. This changed, however, in the revised sustainability strategy from 2013, where clearer guidelines had been established. This meant that in the newer plans, there are more short-term and long-term goals than in the 2003 strategy. Furthermore, the earlier planning strategies were placed within the context of on-going development, whereas the newer plans clearly show an increased incentive and broader knowledge of how climate planning can be implemented. The plans are still based on the three sustainability perspectives, but there is a more balanced focus on all aspects than previously. Furthermore, this increased focus indicates that Aalborg Municipality has been working with climate planning, as it has become more evident what the municipality wants to achieve, thus also indicating that the level of knowledge has been increasing over time.

7.1.5 New and Old Approaches in DK2020

From the timeline, it illustrates that Aalborg Municipality have done climate planning much earlier than the DK2020. However, going through the strategies from 1992-2020, it can be argued that they have not had the biggest impact, as climate seems to have been constantly down-prioritized. From the plans in 2003 and onward, it was clear how the municipality emphasized that the strategies would secure sustainability being adopted in the future. Nevertheless, it became evident how the planning ended up focusing on infrastructure projects and measures for growth, with climate prevention playing a smaller role, and climate adaptation almost being non-existing in some of the strategies. In a statement from Anja Wejs, market director at Niras (see figure 5,2 for illustrating her role in the municipality), she indicates that climate planning since at least 2009 till today has not changed much due to a focus on resources, economy, and the fact that a new area of planning has been challenging to address. To this, she comments:

"In 2009, the focus was on how climate, in many ways, had become a new area of planning. At that time, it needed to be learned and implemented into municipal planning. How has it progressed over the past 15 years? We haven't made tremendous progress since then. We're still at a stage where private initiatives are the ones pushing forward, giving climate planning some momentum." (Wejs, 2024)

Here, (Wejs, pers. comm.) argues that climate planning has had little effect on planning over the last 15 years, as the most prominent action is taken by either NGO's or private citizens. In many ways, it seems that the plans were not sufficiently prioritized in relation to climate. Where many of them aim to protect the climate and prevent climate disasters, but they seem to lack the knowledge and resources to convey what they really want and what the specific purpose should be. With the current plan of DK2020, more concrete goals can be said to have been developed for specific areas and how municipalities should work. This is what makes the DK2020 plans stand out from the municipality's previous efforts. What is presented in DK2020 can be said to be more concrete, and there seems to be a clearer understanding of what the municipality is trying to achieve. This clarity is less evident in other plans, despite Local Agenda 21 being intended to create goals. Thus, it is clear that when sustainability is presented from the three branches "*social, economic, and environmental*," the environmental and social aspects have been more difficult to implement, likely due to this lack of specific approaches.

However, the DK2020 plan is still focusing mainly on climate prevention more than climate adaptation. (Wejs, pers. comm.) talks also about how DK2020, and in general, the history of climate plans, has a smaller focus on climate adaptation.

"In 2009 was it the prevention agenda, and in 2009 there was a research focus on both parts [climate adaptation and prevention, red.], but in practice, the municipalities

primarily focused on the CO₂ part, which at the time was towards COP15 in Copenhagen." (Wejs, 2024)

This evidently indicates that in 2009, and in many years before that, the work in climate planning has been to address the problems in relation to climate change, which is where cities and nations are aiming to reduce their CO₂ emissions. The biggest push to integrating climate work was the Aalborg Charter which seemed to have made a clear strategy about how they wanted to work with sustainability and Local Agenda 21. However, during this process other political topics became more prominent such as a Limfjord connection, economic growth and job opportunities. It is therefore challenging to see what the focus or agenda has been for Aalborg Municipality, as it sometimes seems contradicting in the way they present sustainable solutions and other planning ideas. Lasse Olsen, city council member in Aalborg Municipality, (see figure 5,2 for illustrating his role in the municipality), agrees with this in some ways. He mentions that:

"We have a vision in Aalborg Municipality, and has had it in all the 10 years that I have been in the city council, even way before that, about having fewer cars, [...] and getting more people to take the bike. [...] and we can see that the development is the complete opposite."

(Olsen, pers. comm) mentions that the strategy of developing a more green transport sector in Aalborg has been a political wish for longer than the 10 years, in which he has been a city council member. To this he adds that statistics show the opposite result, that there has been an increase in car sales as well as the number of people who use the car, rather than biking or using public transport. It therefore speaks to the fact that Aalborg's former climate strategies have been insufficient in integrating these visions.

The following section will analyze and explain the effects of the DK2020 plan on municipal climate planning more in detail.

7.2 Changes in Strategic Planning approaches

From the section above, it was seen how the DK2020 plan is more specific than its predecessors. This is in terms of which climate goals the municipality intend to work towards, as well as more clearly defined strategies for how to get there. The following section is thereby highlighting how new ways of thinking have been introduced after the implementation of the DK2020 plans compared to the previous strategies, as mentioned above. For this, it will be drawing on the theory of strategic planning as described in the *Theories* section. The intention is to identify a change in approach in relation to climate planning on the different municipal levels, which can each be seen as the strategic levels of mega-, macro-, and micro planning. It is important to note that while other factors play a role, and DK2020 might not take sole responsibility for these new approaches and

initiatives, they are taking place in the wake of this plan, whereas it can be said to be a contributor in some way.

7.2.1 Mega Planning

As mentioned in the theoretical section, mega planning tends to look beyond the boundaries of an organization as the purpose is to create common goals and strategies, which are beneficial on a societal level. As seen in Aalborg's climate plan, there is a focus on collaboration between the municipality and external partners such as the agricultural industry, something which has initiated new partnerships. As it is seen in the former plans and strategies described earlier, the intention of creating common guidelines, both on a national and international scale as well, is not exactly a new phenomenon, but something that has existed for at least a couple of decades. However, while such strategies can be said to mainly encapsulate written guidelines with the aim of creating consensus between the involved countries, thus trying to set a new direction for climate politics, initiatives can be said to have evolved since then. Both (Olsen, pers. comm) as well as mayor, Lasse Jensen, mayor of Aalborg (see figure 5,2 for illustrating his role in the municipality). Lasse Jensen are mentioning a climate conference taking place in Aalborg in autumn 2024. The conference is an international event, gathering politicians, officials and organizations from all over Europe with the intention of sharing knowledge, inspiration and putting more focus on climate initiatives. The conference thereby marks the 30th anniversary of the Aalborg Charter, being the first of this event, thus taking place in Aalborg once again. When comparing the agenda from previously and this year, it is seen how the former intended to shed light on certain climate points such as groundwater, energy consumption and greener transport, while today is more about the social aspect in terms of cooperation and dialogue. Looking at the website of the event, it is seen how headlines such as *Think beyond your Silo*, *Connecting People*, and *Conversations not Presentations* make up the main points on the agenda (AalborgKommune, 2024). This shows how there has been a change from which climate issues to solve, to how to solve climate issues together, thereby displaying an increased awareness that climate change is a common issue, thus requiring common effort and solutions.

Looking at it from a national scale, there are indicators as well pointing towards a more collaborative effort. When asked how closely he is in contact with politicians in the government, (Jensen, pers. comm) says: "Very closely. I have regular meetings with ministers from the Social Democratic party as well as the government. And there is always climate on the agenda." (Jensen, pers. comm) expresses how the topic of climate and environment is always discussed in political meetings at government level. He goes on to explain how this is not just a top-down approach, but rather how Aalborg Municipality have the ability to influence potential legislation and new initiatives. To this he says:

"They [government officials, red.] are very responsive. They would like to know whether something works in practice. So, it is not just [...] them deciding on something, and

then they move on and we [Aalborg Municipality, red.] will have to handle it locally.”
(Jensen, 2024)

From this quote, Jensen gives the impression that climate planning, on this scale, is a two-way procedure where the municipality are able to come up with knowledge and suggestions to what can be done in the future. On another note, (Jensen, pers. comm) also talks about how the municipality collaborate with other interests. Here, he mentions how, due to the visions outlined in the DK2020 plan, a partnership between Aalborg Municipality and an industrial farmer has been formed with the intention of creating common beneficial climate solutions. He elaborates by saying:

“When I first met him, he was a conventional farmer. But through this combined effort we have had in the municipality, he has become an organic farmer and has had windmills established along with many other things. And this could not have happened if not for the partnership with the municipality.” (Jensen, 2024)

(Jensen, pers. comm) gives the example of how an increased focus on creating partnerships between the municipality and industrial agriculture have paid off. This is in terms of more sustainable farming, the establishment of windmills, and an overall better land use. It is thereby seen how visions from the DK2020 plan are being realized, creating common solutions with positive outcomes.

The different municipalities located within the region of Northern Jutland can also be said to have been brought closer together as result of the DK2020 plan. Olsen explains this by saying:

“I think the inclusive processes which the region of Northern Jutland was in charge of organizing, and where [almost, red.] all of the local politicians were working with climate, [...] that has given new feeling of ownership. And additionally, some political inspiration across the municipalities.” (Olsen, 2024)

(Olsen, pers. comm.) is expressing how the common strategies found in the DK2020 plans initiated meetings and workshops for the politicians located around Northern Jutland, resulting in a feeling of ownership and the ability to inspire each other.

It can therefore be concluded that the DK2020 plan has directly increased focus on the collaboration aspect of climate planning. Firstly, on a national scale where it is seen how partnerships between the municipality and agricultural industry have been formed, showing how different actors with different interests can do climate planning collectively. Furthermore, Jensen’s statements indicate a close collaboration between municipality and government with the opportunity to influence national climate planning rather than hierarchical decisions being made. It is also seen how this mentality exists on

an international scale with Aalborg hosting European conference, with the agenda being the strengthening of collaborative effort.

7.2.2 Macro Planning

The aspect of macro planning is concerned with an organization as a whole, and thus how each of its components work towards overall goals. It can then be said to encapsulate Aalborg Municipality with its different departments and subsections, and how they collectively are trying to solve issues such as flooding and more green transport. In terms of DK2020 and its effect on the macro planning aspect, Jensen says:

“The climate plan [DK2020, red.] is very specific. When we are creating the strategies and have our political wishes, [...] people can take specific [climate, red.] actions after something has been decided on in the city council.” (Jensen, 2024).

(Jensen, pers. comm.) mentions how the DK2020 plan has made climate goals and strategies more tangible and thereby providing a framework to lean against when doing climate planning. He goes on to say: “I think it is really important that you have measurable effects of the things you want to accomplish.” (Jensen, 2024). Examples of such things which can be measured are

“The development of water levels in the Limfjord, and actions towards preventing flooding in Aalborg, Nørresundby and other cities that are close [to the fjord, red.]. [...] it is coastal protection and nature-based solutions. [...] how to replace vehicles or what to do about our buildings, lighting, etc.” (Jensen, 2024).

(Jensen, pers. comm.) talks about the different aspects of climate planning which have become easier to work with due to the specific visions and requirements formulated in the DK2020 plan. These statements thereby indicate that climate planning was more difficult to work with previously due to a missing framework for topics such as those mentioned above, and that DK2020 has provided a better structure, making it easier to adopt an approach. This point was also deducted in the earlier section concerning Aalborg’s previous climate plans. (Olsen, pers. comm.) agrees on this view. When being asked the question of how he, as a former official in the department of climate and environment, has been working with climate planning before DK2020, he mentions the different sustainability strategies explained in the previous chapter. Furthermore, he goes on to say:

“I think where the DK2020 plans differ the most from previously is that you have developed a common language in terms of what subjects to act on. [...] the fact that there is a uniform framework has only made it better, I think.” (Olsen, 2024).

(Olsen, pers. comm.) mentions the previous work with climate planning, which entailed strategies based on the Brundtland Report and Aalborg Charter that has been created internally in Aalborg Municipality. He then talks about how DK2020 has resulted in a better overall framework which has been making it easier to identify climate areas where action needs to be taken. When asked a follow-up question whether DK2020 has made it easier to work with climate planning in general, Olsen's answer was a clear *yes!* (Olsen, 2024). From this quote, there is no doubt that the DK2020 plan has had a positive impact on the climate planning process within the municipality.

Jesper Hansen, who works as climate coordinator in Aalborg Municipality, has a similar view on things. The position Hansen is sitting in has recently been created with the intention of having more collaboration and communication between the different municipal departments that are working with climate planning. This can therefore also be linked to the DK2020 plan which has identified coordination as an important aspect in solving climate challenges. When asked how closely the different departments are working together, he answers: "Very closely. We are in close contact. Right now, we are working on securing that more climate adaptation is implemented in our local plans (Hansen, 2024). Here, Hansen implies that there is strong collaboration between the different departments in the organization, and that they are trying to coordinate how climate planning, more specifically adaptation, can become more prominent within the general planning of the municipality. He goes on to explain that while being located in the department concerned with urban and landscape development, he has also been hired to work as a link across all municipal sectors and departments in relation to climate planning. He elaborates by saying how his job has consisted of assembling a group with representatives of all the technical departments within the municipality to find common solutions to flooding issues, because "water does not respect boundaries or how we organize it in Aalborg [Municipality, red.]." (Hansen, 2024). From Hansen's point of view, there is an overall feeling of close collaboration within the municipality in terms of solving issues in relation to climate changes, which is primarily centered around flooding in Aalborg. This is, as mentioned above, based on the establishment of a group where a member of each department is represented, and where one of the tasks is concerned with making climate planning more prominent in the physical planning that takes place within Aalborg Municipality.

From the quotes above, it is seen how the DK2020 plan has had an effect on overall municipal planning in terms of providing a more clearly defined framework for climate planning. This has resulted in the adoption of a more structured approach from the municipality's side, as both (Jensen, pers. comm.) and (Olsen, pers. comm.) are saying it has been easier to create strategies due to a climate plan where specific and measurable points have been identified. Furthermore, (Hansen, pers. comm.), in his role as climate coordinator, has experienced more collaboration between departments, where one of the tasks is to incorporate DK2020 more into the physical planning.

7.2.3 Micro Planning

In terms of micro planning, it could be argued that the DK2020 plan is yet to show its effects in the different departments. However, despite a possible lack of new approaches, the climate plan does seem to have had some positive impact. As Mette Valentiner Nielsen, physical planner within the sector of local plans (see figure 5,2 for illustrating her role in the municipality), is expressing: “I want to say that in general, we have a really good municipal plan in Aalborg Municipality. [...] it is a really helpful tool.” (Nielsen, 2024). (Nielsen, pers. comm.) says that the municipal plan is a good tool for aiding with daily tasks. While she is talking about the municipal plan in this case, this still draws on the key elements and strategies from DK2020, thereby referring to the same municipal goals and visions. As with the people on the political level, she agrees that the plan is providing a framework to work from. Despite a feeling of lacking initiatives in general, she says that:

“All the intentions are there. It is the right choice of words in terms of wanting to prevent flooding, [...] thinking in new ways, and the balancing of interests. So again, all the intentions are there, but we are not being [...] properly prepared by the upper levels to realize them.” (Nielsen, 2024).

Here, (Nielsen, pers. comm.) mentions how the different focus points in the climate plan are well-formulated, and that they provide strategies for the future. However, she is still missing specific guidelines from the plan in terms of how to implement such strategies which makes it difficult to realize the intentions at the local planning level. On the contrary, she talks about how the objectives in the DK2020 plan has made her get in touch with people from other departments in order to share knowledge and get an understanding of the problems they are dealing with, and thereby gain better clarity of what the task requires (Nielsen, 2024). Therefore, the plan can be said to have encouraged better coordination between different professions, which is also one of the visions mentioned in it.

From this, it can be concluded that the DK2020 plan has had a smaller effect on micro planning than mega-, and macro planning, as the strategies and visions are still to be implemented in the departments. However, from Nielsen’s statements, it seems like it is a process in motion, as the physical planners are slowly starting to coordinate between each other, outside of their departmental silos.

7.2.4 Summary

From the above section it is seen how the adoption of the DK2020 plan has changed several procedures and approaches within Aalborg Municipality. When compared to previous strategies and approaches to climate planning, it is seen how DK2020 includes more specific goals and visions than before. This concerns areas such as flooding, water quality, building requirements, municipal vehicles, etc., whereas focus in the past was more general in terms of how to lower overall CO₂ emissions. While that is still a central element in the DK2020 plan, other objectives such as the aforementioned have become more measurable, seemingly

making it easier to implement them. It is clear that old climate plans and strategies were missing an agenda and specific overall long-term goals, making them rather vague in their definition on how to solve several issues towards climate planning. This was also due to climate planning being a rather new field with a lot of uncertainties, where priorities were still regarding growth and economic stability. In relation to the aspect of strategic planning, the effects of the DK2020 plan can be seen mostly on the mega-, and macro planning levels, where statements from the interviewed politicians and climate coordinator indicate that the specified climate objectives have made it easier to collaborate. This is both within the municipality, and on regional, national, and international level as well. Within the field of micro planning, (Nielsen, pers. comm.) claimed, despite a general lack of tools for realizing these strategies, that the climate plan has good intentions with proper visions. Additionally, it seems that it has initiated the process of better coordination between municipal departments, because of DK2020 being presented as a more complete plan that have precise goals each department narrowly follow.

Challenges in current Climate Planning 8

This section aims at answering the second sub question *To which degree are governance and power relations present in Aalborg Municipality's climate planning, and what main barriers can be identified in the planning process?* To answer this, Governance Theory along with Rationality and Power will be used. During the analysis, the section will follow the five propositions by Gerry Stoker, as these reflect current challenges experienced by Aalborg Municipality. Additionally, the propositions will provide a framework for how to structure this section. The theory of Rationality and Power by Bent Flyvbjerg will be used as supplement to explain relationships and power structures between actors. The section takes into account that not all propositions are equally relevant, thus leaving out proposition 4 concerning actor-networks, as this has not been a focus in any of the interviews made. Neither will each proposition be analyzed equally in depth as some are better at explaining Aalborg Municipality's organizational structure and the challenges they are facing. First analysis will also be used on the basis of how the politicians and planners described DK2020, in relation to how the coordination and decision-making process has been influenced by DK2020.

8.1 Proposition 1: A Plurality of Actors

The aspect of climate planning is something which has brought with it an involvement of many different actors. This encompasses both public and private, where the role of these is far less rigid than previously, resulting in a new dimension of complexity in solving issues. This is partly due to the state having delegated more and more of its tasks to the private sector over time, but also the state itself having become more fragmented within the organization. This process is described as the decentralization of power, transitioning from a government with most of the responsibility, to a society where private companies and civil society have more influence. To elaborate on this, such delegated tasks typically include those within the health sector, educational institutions, as well as the rise of public-private partnerships (Stoker, 1998). Looking at Aalborg Municipality in terms of climate planning it is seen how different responsibilities, even some that might look simple from the outside, involve a plurality of actors. These typically have different, but also sometimes overlapping legislation which creates layers of complexity in terms of governance seen from a municipal point of view. Looking at the domain concerning water, (Nielsen, pers. comm.)

explains how legislation, and thereby actors, vary depending on e.g., whether it is ground-, rain-, or sewage water one is dealing with. This means that different departments handle different types of water. Within municipal jurisdiction there is a department for coastal protection. Furthermore, another sector deals with rivers, streams, and other water ways within municipal borders, and lastly, there is the task of utility company, supplying water to municipal residents. She goes on to explain how this often creates difficulties as each department is working within their own silo, not possessing the knowledge when matters lie outside their jurisdiction, something that often results in lack of coordination (Nielsen, 2024). Here, she uses the example of heavy rain which has the potential to affect every single department. As rain has gradually become more intense within the last decade, this has resulted in greater amounts of flooding, something which then concerns a certain department. However, solutions for leading the water elsewhere could require either the use of certain roads or sewer systems which would then trigger two different departments with different legislation. These issues can sometimes also include private contractors who either own a property with risk of flooding or intend to build something which might not be feasible in the long run, or local citizens who own a house in flooded areas. Thereby, it becomes a situation that requires coordination between many different actors who each has their own interests and way of doing things. Another example involving different actors comes from (Olsen, pers. comm.), where he talks about a municipal project of closing a small part of a road in Aalborg for car traffic in order to promote walking, biking, and public transport instead. Besides different departments within the municipality, it also included the state, as they would have to be convinced that the project was eligible for funding. Furthermore, it then required an agreement with the region of Northern Jutland, as they are in charge of public transport, as well as private entrepreneurs who have been delegated the task of maintaining the daily operation of busses. Lastly, the project also heavily relied on citizens and their response, as private transport is always a controversial topic which can make a project of even *"a few 100 meter stretch of road"* (Olsen, 2024) political. To summarize, governance in relation to climate planning often include a vast number of different actors, even when dealing with situations on a relatively small scale. This is both internally within the municipality, with different departments each handling different legislation, the state in terms of roads, private investors, as well as civil society. This also shows how the overall aspect of climate planning is a matter of coordination, weighing different options against each other, while trying to reach a solution with common benefits. This also shown with plurality of different actors that the integration of DK2020 in Aalborg Municipality touches all the different aspect of strategic planning levels with mega, macro and micro- planning, where each actor have role in the climate planning process.

8.2 Proposition 2: The importance of coordination

The difficulty that has arisen in modern times with fragmentation within organizations, and tasks spread out on multiple actors is elaborated in this section by people on all municipal levels. As described above, climate planning involves different actors, and thus requires strong coordination skills. The following section will highlight aspects such as responsibility and authority, and how the lack of these make different departments, employees and actors rather unsuited for climate planning.

On a political level, there seems to be a general agreement concerning this challenge. (Olsen, pers. comm.) recognizes this issue in his daily work. He explains that while there is a mentality about different departments working together as a unitary group with common goals, difficulties arise when it comes to funding different projects. To this he says: *"Whenever something costs money, this unitary mentality is challenged"* (Olsen, 2024). He then gives an example of how it was decided in the city council to replace petrol driven cars with electric ones within the department for elderly people in order to lessen CO₂ emissions, but that some departments did not follow through with this. He then explains how he was met with the argument: *"Do you really think we should spend money on Teslas instead of care for the elderly?"* (Olsen, 2024). In addition to this, he explains how the city council had agreed on this decision, which had an allocated budget for it, as part of working towards some of the goals in the DK2020 plan. However, the affected departments did not seem eager to implement this decision, as they did not feel it as part of their responsibility, and with a mentality of it being up to someone else, as (Olsen, pers. comm.) states. He then goes on to explain how the process took more than two years from decision to actual implementation. To this he says: *"This is an example of how silo thinking, where you sit in each your department and, in a way, battle each other, can be incredibly strong."* (Olsen, 2024) The above-mentioned quotes thereby show how silo structures, and the division between departments, especially when it is a matter of funds, can complicate and postpone decision-making processes. Here, it suggests that different departments are separated and working within their own field, thus showing how a relatively simple case as converting vehicles is a task which nobody sees as their responsibility. Furthermore, it underlines the fragmentation that exist within the municipality, from when the political level creates strategies and makes decisions, to the executive levels which then have to implement these. It is interesting to note how previously in the analysis, concerning the first sub-question, the mayor stated that the DK2020 plan had made it easier to work with objectives such as vehicle replacement. However, despite such guidelines it is still seen how difficulties arise in the implementation phase, as it becomes a matter of competing interests along with what seems to be a missing responsibility for any of the actors. This underlines how the physical planning includes many more factors to consider, than what can typically be formulated in a strategy. In relation to issues with funding, Jensen agrees to this, even saying how it is the biggest barrier to getting climate initiatives implemented. *"We know the solutions [to climate changes, red.], but we need funding. It is often [...] the challenge in our climate action plans. Where will the money come from?"* (Jensen, 2024).

(Jensen, pers. comm.) states that climate plans and their strategies depend on funding from the state in order to get properly implemented. At the same time, he mentions how it would be better to choose a few projects and give them proper funding in order to develop better solutions. He criticizes the decision to spread out funds on many different smaller projects which, he believes, does not contribute with much in the end (Jensen, 2024).

In terms of fragmentation, the lack of coordinating and claiming responsibility within the municipality is not limited to different departments only. (Olsen, pers. comm.) also talks about how, on a political level, the outcome of many decisions and planning processes depends on the relationship between people. He elaborates by saying:

"It depends on how the politicians are feeling about each other, and how much they feel they are each others opponents. [...] and I think also something as simple as personal connection." (Olsen, 2024)

This indicates that the challenge of coordinating and making decisions which are working towards mutual solutions can be a matter of personal relationships, and thus the willingness to work together or not. He goes on, saying:

"[...] whether you see someone behaving in a way where they are willing to help with a problem that may arise, or you just feel they are trying to make it a political game and play each other out in the media. Such a thing can have an impact." (Olsen, 2024)

(Olsen, pers. comm.) points to the fact that fragmentation within an organization is also a matter of fragmentation between people, and whether they are willing to work together or divided against each other. It could therefore be argued that the challenges related to climate change, which seem to demand skills in coordination, can only be solved as long as people are willing to work together. To this, he adds that he would like to see more cooperation between actors, the sharing of knowledge and in general seeking inspiration from each other. This comes as a result of him being asked what the most difficult aspect of climate planning is as of now, to which he answers *"the gap from idea to implementation. That is by far the biggest challenge."* (Olsen, 2024) He thereby acknowledges that physical implementation is not a smooth process, but requires comprehensive planning and effort.

Despite these challenges in finding common ground between different levels and departments within the municipality, (Olsen, pers. comm.) says that he, as a politician, has been in close contact with both the heads of technical departments as well as people from management. This is due to climate strategies and the creation of these demand frequent meetings with representatives from the departments of concern. Thereby, the process has been more dialectic with adjustments along the way rather than a fixed top-down framework.

One of the challenges for Aalborg Municipality lies within the field of legislation. As mentioned earlier, water is spread out on different departments with different procedures

and laws they have to follow. The subject in itself is getting more serious as groundwater is relatively high in and around the city of Aalborg, meaning that storms and heavy rainfall are leading to more frequent flooding. However, each department handling water is working within their own silo of legislation, meaning the degree of flooding seen in recent times is making it difficult to coordinate. This is due to none of these water departments being capable of solving the problem single-handedly, and where current legislation prohibits certain solutions such as letting utility companies transport groundwater in order to help citizens with flooding (Hansen, 2024). Such a solution could ease some of the climate planning concerning water and flooding by creating efficiency and strengthening collaboration between different water departments. However, such legislation has not yet been made by the government (Rothenborg, 2024). (Hansen, pers. comm.) even mentions that legislation in regards to flooding, municipal water ways and their course, is not concerned with climate planning or adaptation. He follows up by saying how the DK2020 plan is intended to provide such guidelines instead. However, as he also mentions:

"In contradiction to legislation [...] if we don't live up to our DK2020 goals, nobody will drag us to court. We haven't broken any law so there is no legal consequence [...] for us as a municipality and authority."

From what (Hansen, pers. comm.) states, climate planning, in relation to DK2020, and legislation concerning climate elements such as water are two separated areas. This could potentially make it difficult for the municipality to follow through with climate strategies, if legislation prohibits certain procedures and initiatives which could lead to a stronger capability in dealing with climate changes. Despite this, and the fact that no consequences exist for not living up to the goals in the DK2020 plan, Hansen still thinks legislation and climate planning should be separated. To this, he adds:

"What happens if you go down that path [legislates climate goals, red.] is that municipalities will say: if you [the state, red.] require us to do this, you will have to fund it. [...] because our finances are insufficient." (Hansen, 2024)

Here, he expresses his belief that legislation will not be a solution to reaching climate goals as it requires too big of a budget for the state, as well as municipalities pointing towards the government for more funds whenever climate goals aren't met. Instead, he thinks there is a lack of different tools and frameworks for how to go about current problems caused by climate changes. He highlights that it should be a combined effort between municipalities and the government in order to better aid affected citizens (Hansen, 2024). This furthermore shows how the ability to create and implement climate initiatives requires coordination between all levels of society. As planners from different departments are forced to organize within the municipality in order to find common solutions to climate changes, legislation can sometimes be a hindrance, whereas this aspect also requires better coordination between municipalities and the government.

When zooming in on a department level, statements from physical planner, Mette Valentiner Nielsen, indicate that there is rather a lack of coordination within the municipality. Thereby, she contradicts the statements which was given from the other interviewees at the higher levels, giving the impression that this coordination does not reach all of the municipality. Within the department of urban development and construction, Nielsen's job consists of creating local plans for different projects, meaning her position encapsulates the process between idea and implementation. Something which, as previously mentioned, is where challenges occur. While she recognizes the group consisting of different professions dealing with current climate issues, (Nielsen, pers. comm.) explains how coordination is still a challenge. According to her, a lot of it has to do with a gap that exists between the different departments, both in terms of communication and general knowledge as well. She explains how a general issue in creating planning documents is when demands or modifications are made higher up without knowledge of the topic. She states:

"It is really difficult for planners. [...] they require a water management plan, but it gets difficult [...] when they make demands but don't have the knowledge about what exactly such a plan demands. And then when I get the assignment, what I am to do with this?"
(Nielsen, 2024)

Here, (Nielsen, pers. comm.) highlights how it gets problematic when planners possess little to no knowledge about a subject they make decisions on, as they provide each other with assignments that go beyond their level of skills or are too complicated to achieve. It thereby also indicates that there is more to the physical planning aspect than simply creating strategies, if such strategies are to be implemented. In addition to this, she says: *"Coordination often takes place at a higher level, the strategical level, [...] and I have realized that it is actually difficult to get a say in it, in any strategic development."* (Nielsen, 2024). (Nielsen, pers. comm.) describes how it is difficult for a planner to gain access to or influence decisions made at a higher level, thus emphasizing fragmentation and a potential gap between those who create strategies and those who are to implement them. It therefore seems a perception exists among planners that strategic planning belongs at the political level rather than the municipality as a whole, and that the link between the three levels is not clearly defined within the organisation. Due to their wish of keeping such processes exclusive, she believes it results in a lack of practical knowledge which, in the end, is what leads to decisions that are difficult to implement for the planners (Nielsen, 2024). The quotes also emphasize the aspect of fragmentation, as there seems to be no interaction between the political level and planners in Aalborg Municipality, which suggests a top-down approach. This could be an explanation to why there is a stronger feeling of coordination among the politicians, as they create the overall strategies, but that they simply lack practical knowledge which, in the end, prevents them from being properly implemented.

Furthermore, she adds that the missing coordination between levels have required her to take matters into her own hands and contact people from other departments in order to get an understanding of the problems they are dealing with and thereby gain better clarity of what the task requires (Nielsen, 2024). This is a clear example, as Stoker describes it, of how decision-making and implementation of policies become challenging when a task demands effort from multiple actors who each have their own guidelines to follow. It shows how the strategic aspect of coordination has not been fully integrated within departments, as planners are still used to operate within the traditional silo structure, thus pointing to a certain level of fragmentation as well. When talking about the subject of water and potential areas for flooding, Nielsen says:

“Traditionally, it is not something we have been involved in at my department in ‘Urban Development [figure 5.2, red.] and Construction’. [...] it did not have a lot of focus, and there was a general understanding that water management has nothing to do with us, and that there must be others who know more about it [...] so they have to figure out a solution.” (Nielsen, 2024)

This quote clearly illustrates how there seems to be a gap in identifying and addressing a more complex problem. Again, it shows how different departments are working within their own silo of procedures and legislation which also indicates a lack of understanding and coordination within the organization, as it is not clear who is responsible for handling this area. She goes on to say that this lack of coordination is not something people have discussed, as they are used to work within their own department, but that this approach no longer effective when climate circumstances are the way they are (Nielsen, 2024). As a result of this, assignments often end up being incomplete due to a mentality of:

“[...] ‘well, we can’t solve this [demands to local plan, red.]. The process is too difficult, so we’ll just write something.’ We are just writing which procedures that need to be upheld, but [...] not how to go about it.” (Nielsen, 2024)

(Nielsen, pers. comm.) explains how the missing coordination between departments can impact certain tasks, not being carried out the way they should. Additionally, she says that when e.g., such a local plan, which has not been handled properly, is passed on to another department, they have even worse prerequisites for doing their job as there is no clear framework to use. Her quote clearly illustrates the fragmentation in the municipality, as the department is given assignments without any guidelines for how to solve them, thus resulting in the same problem for the people who have to continue the work further down the line. The lack of responsibility and clear guidelines are therefore something which affect the organization as a whole, creating difficult processes, postponing decisions, and having to rewrite local plans (Nielsen, 2024). All something which Stoker describes as ineffective work. She then goes on elaborating how the municipal plan is one of the major issues as it is rather vague in defining rules and boundaries, e.g., often allowing construction permits

in areas with risk of flooding despite it becoming problematic later on. She says: *“The municipal plan is passing on the monkey. And then we end up in long processes as nobody has the authority to say [...] this is a bad solution.”* (Nielsen, 2024). The missing authority and lack of clearly defined boundaries thus seem to result in poor solutions and inefficient work, as planners are forced to occupy themselves with time consuming procedures that is not beneficial to the municipality, but end up getting implemented anyway. This seems to be due to a busy schedule on all levels, resulting in questionable planning processes without proper contemplation. Something which could possibly be avoided if a framework was more clearly defined. Overall, it seems the general understanding from creators of strategies, on how physical planning is done, is not in alignment with how it works in reality, as it is seen how many of the task end up not getting properly handled.

It therefore seems that a certain disagreement exists within the municipality in terms of to which degree coordination takes place. On one side, (Olsen, pers. comm.) as well as (Hansen, pers. comm.), who sits in a mediating role, are giving the impression that coordination is an integrated part of their job with group meetings and communication forth and back between different levels and departments. Seen from the physical planner’s perspective, Mette Nielsen, the perception is different as she mentions the inability to coordinate between departments due to silo thinking, lack of knowledge, and an overall gap between planners and politicians as the main causes which prevent coordination within the municipality. The explanation to these differing views could be found in that it is generally easier to formulate and discuss goals, visions and partnerships than to actually implement them, meaning that Olsen and Hansen’s perception of coordination taking place might be legitimate. However, Nielsen’s statements indicate that this coordination does not reach the different departments working with the physical aspects of planning, as there is a feeling of missing authority and responsibility when performing tasks. This shows how the process of getting from strategy to implementation is challenging and perhaps require a more strategic approach, something that (Olsen, pers. comm.) on the political level agrees on. Additionally, with the creation of the relatively new job position of climate coordinator, which Hansen occupies, as well as gathering experts from the different sections for meetings, it indicates that Aalborg Municipality has identified and acknowledges the problem of cross-coordination within the organization, and that they are seeking to improve it.

8.3 Proposition 3: Relationships and power in governance

The importance of influence and relationships between different actors are a defining aspect in terms of governance processes. As actors typically depend on other actors and organizations to reach their goals, knowledge and know-how then become tools of power. This makes some actors such as the mayor of Aalborg Municipality more able to influence decision-making processes than others.

This aspect can be said to be the case both internally in the municipality as well as between them and other external actors. As for the relationships within Aalborg Municipality, it can be referred to what Nielsen said previously about how difficult it is for a planner to get a say in decision-making processes, and how politicians prefer to keep such processes at the political level. It shows how the alleged gap between planners and politicians could imply missing relations as well, therefore resulting in the inability to influence the planning process. This is partially confirmed by (Olsen, pers. comm.) who says that he is mostly in contact with other politicians, and that he is not aware of who is located in any of the departments concerned with physical planning. On the other hand, (Hansen, pers. comm.) gives an example of how such influence can shape strategies and big decisions being made. In this case, he mentions Aalborg Harbour which is located to the east of the city, and how it is an important strategic aspect of Aalborg's overall strategy. Usually, (Hansen, pers. comm.) describes, it can be difficult to get a construction permit in wet areas with high risk of flooding, as several demands need to be met such as drainage, precipitation basins, and non-affectation of surrounding areas. (Hansen, pers. comm.) further explains that the wish for an expansion of the port would make it nearly impossible to meet any of those demands created by the municipality itself. To this he says:

"Had it been any other project, they would simply say no. But since it is Aalborg Harbour, [...] a port with national interest and important for business development as well as tax income in Aalborg, it is too important. They must find a solution." (Hansen, 2024)

(Hansen, pers. comm.) illustrates how exceptions can be made and the climate being down-prioritized when it becomes a matter of growth. As Flyvbjerg mentions in his theory concerning power, resources play the most important role in determining how projects get done. In this case, Aalborg Harbour generate such a level of income that it even gains a national interest, thus making it a key point in Aalborg's strategy. This is an example of, as Flyvbjerg points out, how such resources have the ability to prioritize certain aspects or simply neglect others in a planning process. Here, it is seen how the decision to expand the harbour is being rationalized due to the growth aspect and the economic benefits it will bring with it. This is despite the fact that climate research have deemed the area unsuitable for any type of construction, thus displaying how growth is prioritized and how powerful actors can choose to go against reasonable arguments. Hansen follows up by saying:

"I can say that this [harbour expansion, red.] is a really bad idea, but then the mayor will say to me: 'then you will have to come up with a solution, Jesper. Because this is too important'. And then of course we will have to find a solution." (Hansen, 2024)

The quote exemplifies how decisions concerning large projects such as an expansion of the harbour can become slightly undemocratic, when a prominent actor like the mayor of Aalborg Municipality exercises his power in order to get this decision through. At the same time, the mayor is rationalizing this decision on the grounds that such growth is 'too important', thus not having to present further arguments, analyses, or alternative options, while at the same time being able to look beyond research that goes against it. This, thereby shows how certain actors are more able to influence decisions and planning processes than others due to their position and relations to other actors. With this being said, it is important to remember that politicians have been elected due to a set of political wishes of also securing development within certain municipal areas, whereas they have to prioritize growth every so often, as (Hansen, pers. comm.) states. Therefore, it often becomes a matter of weighing different options and strategies against each other. However, it seems there is a tendency to favor solutions which promote growth over climate initiatives, as explained in the first analysis as well. To this, Nielsen says: *"Growth is still a very big part of it. And we are being measured on how many local plans we make."* (Nielsen, 2024). This quote indicates that growth is still the main philosophy, as she explains how focus is on the planners level of productivity and the quantity of local plans rather than the quality of them. She goes on to say that some politicians have close relations to industries and businesses, whereas it is often the interests of these that are promoted. She elaborates with the statement:

"That's what they are working for, and of course they have the right to do so. But then a lot [of projects, red.] are pushed through, and those who might be against it are left behind without any overview of what is going on." (Nielsen, 2024)

(Nielsen, pers. comm.) explains how the growth agenda gets many projects and initiatives pushed through, thus creating circumstances which makes it difficult for people with different views and opinions to follow along. She uses an example of ground water reservoirs which are used to supply different households in Aalborg with tap water, and how there are plans for developing on the areas above. Despite several red flags during the planning process as well as warnings about potential contamination of the ground water, Nielsen says that while minor adaptations to the plan may occur, the act of revoking the project is not in question. *"It has been notified the whole time with the [contamination of, red.] water. But the growth agenda trumps everything."* (Nielsen, 2024). Thereby, it shows that planning is a matter of prioritizing, and how people with power to influence the planning process, in this example, prefer growth and development to climate and environmental strategies, where infrastructure projects are deemed more important than clean water. As described previously, concerning former planning strategies, Aalborg Municipality has

been using the growth axis as a main element, thus emphasizing how growth has been an overall objective in the development of the city and its visions. It is therefore possible that this strategy gets prioritized, whereas it might collide with goals and visions in the DK2020 plan. (Olsen, pers. comm.) adds his point of view to this by saying he thinks the politicians have good intentions, and that the goals and visions formulated in the climate plan are great. However; *"When it is time to make it more concrete, there is a lack of effort."* (Olsen, 2024). He mentions how politicians often fail to follow through with implementing the climate strategies that have been made, whenever it is time to take action. He elaborates by saying: *"In general, I would like for us to be able to stand up for the things we say, even when it might hurt some people."* (Olsen, 2024). In this case, he refers to keeping the integrity in order to work towards climate goals despite making unpopular choices along the way, rather than changing course in fear of becoming unpopular. This view is shared by Wejs as well who says:

"As soon as it starts to hurt, that is the loss of voters, they [politicians, red.] back out. Here, we are talking about things such as transport and agriculture. They are all for it until the difficult decisions have to be made." (Wejs, 2024)

(Wejs, pers. comm.) explains how climate strategies require difficult decisions, and how politicians choose not to take action due to fear of it affecting their own political career. In relation to this, (Olsen, pers. comm.) uses the example of the municipality's strategy concerning car traffic, which has been a focal point spanning much longer than his political career of 10 years. Despite the wish for minimizing the number of cars within the city along with having more people using bikes and public transport, the development has been the complete opposite. Olsen says: *"If you [city council, red.] could do something else instead of just saying: 'it would be nice if you [citizens, red.] would do this.'" (Olsen, 2024).* As mentioned above, there is much debate about visions and how to get there, e.g., encouraging a change in citizen behaviour, but no real action taken. Here, it is worth mentioning the case from earlier, with a project of closing a street for car traffic, thus making only public transport available. While the section concerned with urban development in Aalborg Municipality had acquired funding from the state to realize this project, it created tension between different people internally within the same sector, resulting in the cancellation of the project. This goes to show how difficult it can be to agree on something and take action, *"even when it is on such a small scale"* (Olsen, 2024) as this project, concerning a few 100 meters of road.

From this proposition it can be concluded that projects, where resources and potential growth are at stake, have much better prerequisites for getting realized than climate strategies, which is what Flyvbjerg advocates for. A significant part of this is due to how people with influence, primarily the politicians, choose to prioritize, where it can be seen that they often favor the growth aspect. This therefore gives developers an advantage, being able to build in such areas with groundwater or risk of flooding, despite much concern about negative climate impacts. This also speaks to the fact that growth is

rationalized by the people in power, while research-backed topics concerning climate is often not considered enough. While there is much talk about climate planning, and with well-formulated strategies, the agenda somehow changes when it is time to implement these strategies. It therefore seems that a lot of focus goes into maintaining the political influence, as it is easier to make decisions that will generate income rather than trying to implement climate initiatives, which are often the difficult and unpopular choices, thus leading to a potential loss of votes.

8.4 Proposition 5: Governance is context specific

In the fifth and last proposition, it is seen how the specific context of Aalborg in terms of history, culture, values, etc. shapes governance in the end.

Something which only happens on the political level but is influencing the rest of the organization, and can make decision-making and climate planning complicated, is election campaigns. (Olsen, pers. comm.) explains how planning, and especially the subject concerning climate and environment, often becomes very political. Therefore, the closer one gets to the election period the less opportunity there is to make decisions and take action because the campaign gets all the focus (Olsen, 2024). This, therefore, leaves relatively little time for politicians to work on their political goals, create strategies, and getting them implemented, to which (Olsen, pers. comm.) criticizes them for often being inefficient and not action oriented enough, especially in terms of climate strategies. This also means many initiatives get postponed to after the election, whereas the people who have worked on getting these ideas implemented might not have been reelected and are therefore unable to follow up on them. Here, (Olsen, pers. comm.) mentions how some initiatives have been made almost to completion, but will have to wait to after the election where a new city council has been elected, and thus either be implemented or modified. Additionally, it then requires a significant amount of time for newly elected politicians to either get an understanding of and continue working with these initiatives, or simply start over and thus being able to leave their own mark as (Olsen, pers. comm.) explains it is often seen. In a period, which lasts four years, he elaborates on how the first year is spent with administrative work in terms of taking over from the previous city council and getting the newly elected people in position. Then:

"The second year is [...] where you, as an official, get to know the politicians and have time to implement things. It is called a "window of opportunity". When we enter the third year, this window becomes smaller and smaller. And for year four, almost nothing can be decided on because everything gets very political." (Olsen, 2024)

From this quote it is seen how much time goes into the political setup and campaigns, and thus how it minimizes time for taking action and implementing solutions. That means potentially only a quarter of a period as a city council member is opportune for working

with climate goals and strategies. As mentioned above, (Olsen, pers. comm.) finds a lack of efficiency and initiative on a political level when trying to realize climate goals and strategies. Although seeing the political model of a four year period as a good thing in terms of democratic values, he recognizes its weakness when it comes to climate planning, as these often have a timeline that goes way beyond four years into the future. The focus in the election periods therefore usually becomes more short-term visions. Here, he gives the example of how Aalborg for the last 100 years has had a mayor from the political party, 'Socialdemokraterne'. Further, he adds:

It would be a historical defeat [...] if they [Socialdemokraterne, red.] lose the position of mayor. Aalborg and Copenhagen municipalities are [...] likely the only municipalities in the country that have had the position of mayor [...] for so long. (Olsen, 2024)

Here, (Olsen, pers. comm.) implies that the position of mayor is of great importance to the Social Democratic Party due to a long tradition of having that seat of power, and that it would be a "defeat of dimensions" (Olsen, 2024) if they were to lose it. As the party is the biggest, and thereby most influential political party in Aalborg Municipality, it therefore seems important to maintain that position. This, as Stoker describes, is an example of how the history surrounding the seat of power in Aalborg Municipality shapes decisions made today, as there are deeply rooted traditions which is influencing certain planning processes. (Olsen, pers. comm.) elaborates by saying that this, along with generally securing a good election, is what make things like climate planning political, whereas it can be difficult to make radical changes. To this he comments:

I think they [Socialdemokraterne, red.] are afraid to tread on someone's toes with the result that [...] some people are pushing for a new mayor. At the same time they can live with being criticized by the green parties. (Olsen, 2024)

In this quote, (Olsen, pers. comm.) implies that a lack of action in relation to climate will likely lead to critique from the green parties, but that it is easier to cope with due to them being minor parties with less influence, and some not being represented in the city council, rather than it being other major parties. Furthermore, he indicates that a potential loss of votes for the party would likely go to the green parties which, in the end, would result in the same amount of mandates, and thus no loss of influence (Olsen, 2024). This is an example of how Bent Flyvbjerg describes decision-making as a power play between different actors, who each have their own, and sometimes, hidden agenda. From this, it can be concluded that the political and historical context present in Aalborg of gaining votes, securing political positions such as mayor, and maintaining an overall influence in the municipality requires a heavy effort. Something, which in turn seems to make it much more difficult to coordinate and agree on a common climate strategy. Another aspect is, as mentioned previously, the organizational silo structure found in Aalborg Municipality, which (Wejs, pers. comm.) mentions is one of the municipalities that have been extremely prone to work

in such settings due to historical traditions and institutions. It is seen continuously how this structure is being challenged by climate change, as this affects several departments and legislation, whereas the traditional approach might become unsuitable for overcoming these obstacles. In addition to this, it can be referred back to what Nielsen said earlier about how her department had not traditionally been involved in any planning concerning water, and the general mentality was that it had nothing to do with them. This indicates that there has been a long tradition of working in rigid structures, an approach which persists to this day.

8.5 Summary

From this chapter, several points which complicates Aalborg Municipality's climate planning can be identified. Firstly, a frequently mentioned challenge is how the different departments are working in silos, concerned mainly with legislation and procedures within their own field. This complicates matters in several ways, where one of them seems to be a general lack of knowledge between the different departments and professions, something which makes the act of coordination more difficult. At the same time, this lack of coordination can be said to go hand in hand with the missing responsibility and clear guidelines. As the effects of climate change, such as flooding, affect multiple departments, and thereby different types of legislation, both planners and politicians seem to be unable to figure out who is in charge of dealing with this issue, and which procedures to follow. The result is many problematic decisions being made due to nobody possessing the authority to cancel them. Secondly, the traditional philosophy of growth as primary focus in strategies still seems to be the main approach when making decisions. This often collides with climate strategies, thus making it difficult to reach the goals, e.g., when projects that will have a negative impact on the environment are allowed. In addition to this, politicians are blamed for not taking enough action, as climate initiatives are often unpopular decisions which can harm potential votes, whereas it is easier to rationalize why growth should be preferred. Lastly, it seems that the political system also acts as a barrier to realizing climate goals. As such goals are long-term visions, some going decades into the future and thus requiring consistency, a period in the city council consists of a four year period. This makes it difficult to focus on creating good solutions, as the majority of this period revolves around election, campaigns, and getting to know procedures and other politicians, leaving little room for working on political agendas.

Discussion 9

This chapter intends to discuss the findings from the analysis, mostly from the second sub-question in terms of the current challenges that Aalborg Municipality seems to be experiencing in the field of climate planning. The discussion will briefly introduce the two theories, *Institutional Change* and *Multi-Level Perspective* as a way to explain possible reasons to why the municipality is facing the difficulties they are.

9.1 New Planning Paradigm

From the analysis, it became clear that climate planning is a relatively new field, and that the premise of climate planning have been changed multiple times in Aalborg Municipality since its beginning. It was also seen that the municipality struggled to follow the guidelines they themselves had made, often because the prioritization landed on economic growth instead.

In terms of institutional change, the theory talks about institutions being established over long periods of time, thus being deeply rooted in norms, routines, laws, traditions etc. As climate planning is a relatively new field, this suggests that anyone planning for this could experience that these established institutions are challenging or perhaps even resistant to changes (Matthews, 2013). This is due to these routines, norms, and other interests such as economic growth or silo thinking, as the analysis showed. To elaborate on this, the aforementioned factors can be said to make up the structure of an institution, something which often persists independently of the people working there. Thereby, the culture of an organization can be passed on from individual to individual, something which could explain why the silo structure has been the traditional approach in Aalborg Municipality. This is despite the fact that numerous people might even agree that this structure is a problem in climate planning. In Tony Matthews' text, he proposes that institutional change happens when institutions impose new social constraints or alters existing ones in order to better manage the stresses created by external changes (Matthews, 2013). Typical institutional change refers to two types of changes; formal constraints such as laws, policies, and rules, and the informal constraints, which are less rigid. These can be social or group conventions as well as norms and behaviour. In Aalborg Municipality, it was seen how the formal constraints would change over time in terms of new strategies and planning policies, while the informal constraints, such as coordination and looking beyond growth, takes significantly more time to change (Matthews, 2013). This could

furthermore be an explanation to the missing authority in the municipality. It was seen in the analysis how there was a general feeling, especially from physical planner, Mette Nielsen, of missing authority leading to poor decision-making and solutions. As climate plans continue to develop and adopt new aspects and strategies to accommodate the complex issues of climate changes, this requires better coordination and new work structures within the organization. As the traditional approach still seems to be present in the different departments, this could therefore explain the missing authority, as nobody has been able to solve problems of this caliber up until this point.

According to Matthews, it is important to acknowledge that climate change is a pressing issue that requires urgent action. This is a recognition that implies that climate change is not a long-term plan that only involve future concern, but it is an ongoing challenge for Aalborg Municipality that require demands, attention, and resources. Despite climate planning being a new field, it requires forward-thinking planning regimes that recognize urgency in the formal and informal perspective of institutions (Matthews, 2013).

9.2 Political structure

Another challenge in relation to climate planning, which was found in the analysis, was the political system. Here, (Olsen, pers. comm.) explained how only a small part of a city council period is actually used to work on climate strategies. The political system can be said to pose significant barriers to climate planning, by having short-term political cycles with what seems to be inefficient work. It therefore creates conflicts between climate planning, which is usually long-term planning, and short-term visions. This could be related to Geels' article about Multi-Level Perspective, stating that there are three different levels making up a socio-technical system. The level of *Regime* is, as explained in Institutional Change, made up of routines, user practices, institutional arrangements, regulations, etc., making it fixed and resistant to changes and pressure (Geels, 2009). However, the theory also talks about *Landscape* and *Niches* as being influential factors such as climate change or technological inventions, which can change the regime. The political system, both on national and municipal scale, can be classified as the regime-level, as it is built on traditions, negotiations, arrangements, and practices, which makes it difficult to change. It could therefore, be argued that the reason for lack of climate initiatives in the physical planning is caused by the regime not being affected enough yet by changes in landscape. This is closely related to what (Wejs, pers. comm.) says about lack of cooperation between municipalities due to them not having felt the consequences yet of climate changes. On the grounds of this, it is up for discussion to which degree a municipality like Aalborg has the ability to succeed with climate planning. This is due to the overall regime still being rooted in procedures and traditions from earlier times, and has therefore not been affected enough by climate changes or new innovations such as technology. While being less fixed than before in terms of climate getting an increased focus, and strategies being made, the regime still seems to be rather stable.

9.3 Summary

From the discussion and the theories briefly presented, some explanations to the current issues Aalborg Municipality are facing towards climate planning have been presented. From Institutional Change, it suggested that Aalborg Municipality's silo structure as well as growth philosophy were results of values, legislation, traditions, and other aspects established over time. It was also evident that the political system was a potential barrier for implementing climate initiatives. Multi-Level Perspective explained this as a fixed regime level, created over long periods of time through negotiation, legislation, user procedures, etc. The problem arises in these traditions and procedures being difficult to change, and at the same time preventing significant advancements in climate planning, despite the increased focus.

Conclusion

10

The project has been researching climate planning within Aalborg Municipality over time up until the implementation of the DK2020 plan. This plan, originally created by mainly Concito and RealDania, is meant to be a framework for how municipalities can work towards the future goal of completely eliminating their greenhouse gas emissions, thus collectively helping the nation reach its goals as well. The climate debate is taking up more and more space, reaching political agendas from local to global scale, and overall affecting daily life in various ways. This is due to the experienced effects of climate change such as increased precipitation and flooding, which has made it necessary to rethink the aspect of climate planning and to better implement it into the physical planning. Due to this, the project set out to investigate the following research question: *How has Aalborg Municipality been doing climate planning over time, and what are the current challenges for realizing visions in the DK2020 plan?*

In order to answer this question, it was then divided into two sub-questions, the first one being: *How has the DK2020 changed Aalborg Municipality's approach to climate planning?* The intention was to analyze how previous climate planning had been carried out in Aalborg Municipality, whereas this could be compared to the DK2020 plan and the current strategies found in the municipality. From this, it can be concluded that Aalborg Municipality has had various different climate plans since the beginning in 1994 with The Aalborg Charter and up until the introduction of DK2020. These earlier climate plans can be said to have laid out the foundation by putting focus on certain issues and challenges such as the need for more sustainability, health, and quality of natural elements. However, where they differ from the DK2020 plan is in terms of generally articulating these problems, but not necessarily providing any solutions or strategies for how to overcome them. In contrast to this, the DK2020 plan provides specific topics, strategies, and measurable goals to be able to keep on track. When analyzing these improvements, through the scope of strategic planning, it was seen how the DK2020 plan had generally had an effect on both the level of mega planning and macro planning. Here, it can be seen how some of the strategies mentioned in the plan has been directly implemented such as partnerships between the municipality and the agricultural industry. The position of climate coordinator has also meant that the municipality are trying to align better in relation to solving climate issues. Furthermore, several people mention how the DK2020 plan has made it easier to reach and implement solutions due to the clearly defined strategies. In terms of the micro planning level, the DK2020 plan did not seem to have the same effect. However, certain quotes

could imply that it has encouraged the sharing of knowledge and information between departments, thus initiating a process of improved collaboration within the municipality.

To answer the other part of the research question, a second sub-question in terms of: *To which degree are governance and power relations present in Aalborg Municipality's climate adaptation, and what main barriers can be identified in the planning process?* was asked. From this, it can be concluded that climate planning is a complex topic where multiple different factors shape or influence the decision making process. The biggest and most direct challenge to climate planning is the act of coordination. From the analysis it was seen how clear objectives and strategies can be problematic to implement due to a number of reasons. One of these is the lack of communication, something which the analysis suggests there is due to a gap between planners and politicians, thus preventing the sharing of knowledge between these when creating strategies. Additionally, it is seen how the different departments and sectors are working within their own silos of legislation and procedures. This is often a problem in relation to climate changes, as e.g. flooding concerns multiple departments which then requires common effort and solutions instead of individual, and typically bureaucratic, silo thinking. The analysis also showed how the growth agenda has been, and still is, an overriding factor in the municipal vision. This aspect is often seen weighing heavily on the decision-making process, as people with influence, in many situations, advocate for solutions which will result in growth, despite being warned about the environmental consequences it can lead to. These decisions thereby highlight the aspect of rationalization, as described by Flyvbjerg, where power is used to get certain growth-oriented decisions through, although well-documented arguments against have proved them to be poor solutions. Furthermore, strategies in relation to reaching climate goals are often not being follow through on, as they tend to include difficult and unpopular decisions. This usually makes politicians hesitate, as they seem to be in fear of losing votes and influence. Lastly, it was found that the political system can be a barrier to climate planning as well. Certain quotes explained how a majority of a four-year period in the city council typically consists of getting settled, administrative "clean-up" work, and being occupied with elections, thus leaving little room for actual climate action.

To conclude overall on the research question, Aalborg Municipality has gone from climate plans that sparked awareness on certain problematic areas to a more detailed plan that has outlined specific visions, strategies, and measurable goals. This has resulted in what seems to be a framework that eases the process reaching agreements and keeping track of climate actions, as in contrast to previously. However, the theories of governance and power have illuminated that a lack of coordination exists within the municipality, both between the different municipal levels but also between the different departments. A lot of this has to do with a traditional bureaucratic approach of working in silo structures. Despite the first analysis showing how coordination had been improved due to more clear guidelines and goals in the DK2020 plan, the second analysis showed how this is still a challenge, particularly in the physical planning, which Aalborg Municipality needs to overcome.

The theories of Institutional Change and Multi-Level Perspective, briefly introduced in the

discussion, explains why this could be the case, as these approaches have been established over long periods of time, and are thus difficult to change. This is due to being rooted in traditions, cultural norms, and procedures. Additionally, as climate is a relatively new field within planning, such norms and procedures can be said to not yet be fully established. Overall, for strategies to be realized it is required to move away from silo thinking and the philosophy of growth as the primary goal, and instead start to make the difficult decisions which is required, if the climate goals are to be met.

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Appendix

11

11.1 Interview guide - Mayor of Aalborg

Lasse Frimand Jensen - interview	
Details	Conducted: 17/05/2024 Interview type: Online (Microsoft Teams)
Purpose of interview	To gain knowledge on climate planning processes and challenges related to this in Aalborg Municipality, seen from the mayor's point of view

Themes	Interview questions
Introduction	<ul style="list-style-type: none">- <i>Presentation of you</i>- <i>What are your climate focus points?</i>- <i>Were they part of your political election campaign?</i>- <i>How are you working with DK2020</i>
Municipal planning	<ul style="list-style-type: none">- <i>How do you ensure political climate wishes make the agenda?</i>- <i>Is the municipal structure capable of solving climate issues?</i>- <i>How has climate planning developed over time in Aalborg?</i>- <i>What are the biggest challenges for reaching the municipal climate goals?</i>
Climate planning overall	<ul style="list-style-type: none">- <i>Is climate being prioritized enough?</i><ul style="list-style-type: none">- <i>On municipal level?</i>- <i>On government level?</i>- <i>How much are you in contact with politicians in government?</i>- <i>Do you have any influence on governmental climate planning?</i>- <i>Does climate planning need stricter legislation?</i>

Figure 11.1. Interview guide - Lasse Frimand Jensen, Mayor in Aalborg Municipality

11.2 Thematisation of Lasse Frimand Jensen

- 00:48 - Introduction
- 01:16 - Climate makes the agenda every day
- 01:42: Climate focal points
- 05:50: Involvement in daily climate planning
- 08:10: How DK2020 aids in following up on climate goals
- 09:20: Important with measurable climate goals (DK2020 is more concrete)
- 13:04: Lack of financing is a problem in climate planning
- 14:52: Ambitious goals from government – but not enough action
- 16:00: Advantage of current government – common climate planning
- 16:29: Nordjyllandsværket has been the biggest disagreement
- 19:00: Positive development over time in climate initiatives
- 20:25: Important to include citizens
- 23:20: Close contact with Christiansborg politicians
- 25:00: Hosting of international climate conference
- 25:15: Aalborg Charter
- 27:20: Collaboration and opportunity to influence governmental climate politics
- 28:40: Climate legislation could help
- 30:14: Relations to other politicians after becoming mayor
- 31:38: Not afraid to make unpopular decisions
- 32:35: Decisions have to be financially sustainable
- 34:05: Partnership with farmer
- 35:55: Coordination between politicians and companies/NGO's
- 37:10: Egholm highway and Aalborg Portland
- 41:00: Outro

11.3 Interview Guide Anja Wejs

Anja Wejs - Interview	
Details	Conducted: 30/06/2024 Interview type: Online (Microsoft Teams)
Purpose of interview	To gain knowledge on climate planning processes and challenges related to DK2020. Gaining an expert point of view of how DK2020 has been structured and its bargaining.

Themes	Interview questions
Introduction	<ul style="list-style-type: none"> - <i>Presentation of you</i> - <i>What is your relation to DK2020?</i>
Process of Climate Planning	<ul style="list-style-type: none"> - <i>Who decided, that DK2020 should be developed?</i> - <i>How did the decision-making process regarding the involvement of municipalities take?</i> - <i>Is the organizational structure a problem in Danish Municipalities when it comes to climate planning?</i> - <i>Is the typical silo structure a problem when it turns out that very few employees are involved in the process?</i> - <i>Should there be more focus on how internal planning is conducted within a municipality?</i>
Climate Planning overall	<ul style="list-style-type: none"> - <i>Can you specify what the fundamental issues are in achieving climate adaptation goals?</i> - <i>Is there a lack of more input from the government towards a comprehensive climate plan or climate legislation?</i>

Figure 11.2. Interview guide - Anja Wejs expert and consultant for Niras

11.4 Thematisation of Anja Wejs

- 00:00: Introduction
- 03:05: Climate planning in 2009 - climate change prevention
- 03:56: Private citizens play the biggest role in climate planning
- 04:55: Politician back out when in danger of losing votes
- 05:30: Politicians have difficulty in understanding climate adaptation
- 07:05: How adaptation was a surprise to many in climate planning
- 08:40: Different types of flooding makes it complicated legislatively
- 09:50: Hard to convince politicians not to develop on risk areas of flooding
- 10:42: How legislation can be a challenge in climate planning
- 13:20: DK2020 and interviews with municipalities
- 13:47: Lack of guidelines for developing
- 17:20 Weaknesses in DK2020 plans
- 19:12: 'Klimaalliancen' and new implementations compared to DK2020
- 20:18: More collaboration between municipalities with risk of flooding
- 21:52: Not affected enough yet by climate changes to seek cooperation
- 23:00: Limfjord municipalities and their collaboration
- 24:58: Information, legislation, and inclusion in relation to citizens
- 27:48: No concrete goals for climate adaptation
- 28:50: Legislation as a barrier for accelerating climate initiatives
- 29:30: The need for better frameworks in terms of where to develop
- 34:00: Initiatives must come from within the municipality
- 34:55: Project at RealDania concerning opportunities in local plans
- 36:45: More careful consideration of where to build rather than paying for protection
- 38:06: Law where the state buys property if unaffordable for people
- 39:35: How much NIRAS is involved in Aalborg Municipality's climate planning
- 40:41: Stronger silo culture in Aalborg Municipality
- 41:52: Lack of knowledge about different professionalisms and legislations
- 42:09: NIRAS aids municipalities with coordination
- 45:00: 2050 goals won't be reached
- 46:18: More important with adaptation than prevention

11.5 Interview guide - Jesper Hansen Climate coordinator

Jesper Hansen - Interview	
Details	Conducted: 11/06/2024 Interview type: Online (Microsoft Teams)
Purpose of interview	To gain knowledge on climate planning processes and challenges related to DK2020. Gaining a point of view from a climate coordinator in Aalborg Municipality
Themes	Interview questions
Introduction	<ul style="list-style-type: none"> - <i>Presentation of you</i> - <i>What has your role been in the planning of DK2020?</i>
Municipal Planning	<ul style="list-style-type: none"> - <i>Who developed Aalborg's climate action plan in terms of goals and strategies?</i> - <i>Can you go through a typical decision-making process in the municipality regarding physical planning?</i> - <i>Can you go through the roles and departments involved in climate planning?</i> - <i>How does the collaboration in Aalborg Municipality look like regarding climate planning and physical planning?</i>
Climate Planning overall	<ul style="list-style-type: none"> - <i>Do you experience at times that the desired climate plan does not result in the desired outcome?</i> - <i>Do you collaborate with those from the North Jutland Region on the climate plan they have developed?</i>

Figure 11.3. Interview guide - Jesper Hansen - Climate Coordinator Aalborg Municipality

11.6 Thematisation of Jesper Hansen

- 01:35 – No climate legislation
- 02:40 – Legislation concerning water
- 03:38 – Legislation is not always a solution
- 04:20 – DK2020 and obligations
- 05:15 – Creation of DK2020 plans
- 06:50 – Climate alliance
- 07:18 – Government working with climate goals
- 08:05 – Why climate legislation won't work
- 09:15 – No tools for helping citizens with flooding
- 10:00 – Kærby and flooding issues
- 11:30 – Municipal departments working with DK2020
- 11:50 – How the municipal council work with climate initiatives
- 12:30 – Jesper's work as climate coordinator
- 13:25 – How Aalborg Municipality prioritize climate tasks
- 14:35 – Issues with financing coastal protection
- 15:55 – Those affected by climate changes must pay for protection
- 16:40 – How climate initiatives are decided on
- 17:35 – Guidelines for prioritizing climate actions
- 19:30 – How economy plays a role in climate planning
- 21:15 – Why climate adaptation is easier to implement than climate mitigation
- 24:48 – Collaboration between different departments
- 25:05 – Project for more climate adaptation in local plans
- 25:20 – Certain climate actions are not always possible (LAR in areas with high groundwater)
- 26:32 – Potential conflicts between profit and climate actions
- 27:25 – How profit is prioritized over climate
- 28:50 – How strong climate requirements can cancel development projects
- 30:00 – Politicians also need to prioritize growth
- 30:20 – Aalborg Harbour and its national importance
- 31:05 – Example of rationality and power
- 32:07 – Planning new neighborhoods and housing
- 33:50 – More inclusion of water in local plans early on
- 34:30 – How traffic has been problematic when planning
- 35:10 – How resources define and realize projects
- 36:55 – Flooding has not been a topic previously when building/buying property
- 38:20 – Lack of awareness in terms of climate change
- 39:25 – The municipality should ensure sustainable planning – not the citizens
- 41:06 – Aiding people with unsellable houses due to flooding
- 41:54 – People tend to be short-sighted
- 43:10 – Climate planning in Region Nordjylland
- 45:25 – Issues with energy planning spanning different municipalities

- 47:17 – The need for more regional planning
- 49:20 – Collaboration with neighboring municipalities
- 50:10 – More focus on climate than 10 years ago
- 51:25 – Climate coordinator and more delegation of power/responsibility

11.7 Interview guide - Mette Valentiner Nielsen - Physical Planner

Mette Valentine Nielsen - Interview	
Details	Conducted: 19/06/2024 Interview type: Online (Microsoft Teams)
Purpose of interview	To gain knowledge on climate planning processes and challenges related to DK2020. Gaining a point of view from the physical planning aspect.

Themes	Interview questions
Introduction	<ul style="list-style-type: none"> - <i>Presentation of you</i> - <i>What has your role been in the planning of DK2020?</i> - <i>How have you been involved in climate planning?</i>
Municipal Planning	<ul style="list-style-type: none"> - <i>How closely do you collaborate with other departments in Aalborg?</i> - <i>How is it decided which area is to renew in the city?</i> - <i>To what extent do you use the DK2020 plan in your work?</i> - <i>Do you feel there is enough political will to incorporate climate into planning?</i> - <i>What has been the main focus in your work at the present time?</i> - <i>Do you see in physical planning that there is a lack of funding and resources to achieve climate goals?</i>
Climate Planning overall	<ul style="list-style-type: none"> - <i>Is there anything you wish to see improved regarding planning?</i>

Figure 11.4. Interview guide - Mette Valentiner Nielsen - Physical Planner Aalborg Municipality

11.8 Thematisation of Mette Valentiner Nielsen

- 01:27: Introduction
- 02:45: Coordination issues in working with water
- 04:22: Creating guidelines for water
- 06:30: Demands from people with lack of knowledge makes it difficult
- 07:48: Coordination happens on a strategic level – difficult as a planner to get a say
- 08:45: Practical experience could decrease gap between municipal levels
- 09:20: Each department focus on their own
- 09:50: Different authorities handle different legislation for water
- 14:30: How a local plan is made
- 18:11: When external partners create local plans and potential issues
- 19:30: Length of a local plan
- 21:00: Urban renewal and legislation
- 21:55: Urban development and the political process behind it
- 23:08: Problems with coordination in terms of legislation
- 24:10: Planloven and its possibilities
- 24:50: Why silo structures are unable to solve climate problems
- 27:45: No clear responsibility – passing the monkey
- 29:30: Lack of ownership and responsibility on several levels leads to
 - coordination issues
- 30:10: Well-formulated strategies but no real action
- 31:40: Great gap between planners and politicians
- 32:05: Management has neither interest nor knowledge of legislation and climate action
 - 32:42: Too complex for anyone to deal with – difficult to coordinate
- 33:33: Lack of responsibility is the biggest challenge in climate planning – planners are not dressed for the task
- 35:30: Gap between planners and politicians creates tension
- 36:57: Other development interests often create bad solutions
- 37:37: Water drainage and possible new legislation
- 39:48: Climate adaptation is more tangible for a planner
- 41:34: The need for a more comprehensive municipal plan
- 43:12: A good municipal plan in Aalborg – a useful tool – non-existent in other municipalities
- 44:55: Point out high groundwater areas as climate landscapes for more effective solutions
- 46:44: Better coordination and balancing of interests for better climate planning
- 47:36: The state has also passed on the monkey in relation to windmill locations
- 49:25: Municipality has pointed out “energy landscapes”
- 50:15: Growth over climate – measured on number of local plans made
- 50:39: Politicians can’t oversee all the local plans
- 51:25: Things are rushed meaning poor decisions and legislation

- 52:28: Outdated procedures in relation to climate planning – growth is prioritized
- 54:30: Pressure from flooding requires more work
- 55:35: Only looking at number of local plans made and not the data
- 56:10: Difficult to communicate with people who have no insight in local plans
- 56:48: All municipal levels must face problems head on
- 57:48: Being busy makes planning superficial
- 59:25: Positive with climate coordinator – however, coordination requires more people

11.9 Interview guide Lasse Olsen - Politician

Lasse Olsen - Interview	
Details	Conducted: 05/05/2024 Interview type: Online (Microsoft Teams)
Purpose of interview	To gain knowledge on climate planning processes and challenges related to DK2020. Gaining a point of view from a politician in Aalborg Municipality.

Themes	Interview questions
Introduction	<ul style="list-style-type: none"> - <i>Presentation of you</i> - <i>What has your role been in the planning of DK2020?</i> - <i>How have you been involved in climate planning?</i> - <i>Who did you mainly collaborate with as the alderman for climate and environment?</i>
Municipal Planning	<ul style="list-style-type: none"> - <i>How does the decision-making process regarding climate measures occur at the political level?</i> - <i>Are you as a politician in contact with planners?</i> - <i>Lack of coordination in the municipality across levels – is there a focus on it?</i> - <i>How did the municipality work on climate before DK2020?</i>
Climate Planning overall	<ul style="list-style-type: none"> - <i>Do you wish for more legislation in future climate planning?</i> - <i>Is there enough political will to put climate on the agenda?</i>

Figure 11.5. Interview guide - Lasse Olsen - Politician Aalborg Municipality

11.10 Thematisation of Lasse Olsen

- 00:20: Introduction
- 01:10: Interest behind politics, what made you choose politics and be a politician
- 04:01: Decision-making process towards climate adaptation.
- 06:50: A slightly different distribution of work than physical planning, but there has been close contact with the case manager.
- 8:30: How often are you contacted by the planners in the municipality
- 09:50: Lack of coordination, is recognizable, lack of communication (History of his story of how lack of coordination in praksis are a problem in the municipality)
- 13:20: Decision to implementation.
- 13:40: How silo thinking can complicate the process
- 15:30: There is a lot process of process time towards decision making.
- 15:40: Political election, and challenging by implementation and election interfering.
- 17:05: Send aben videre,
- 18:22: Clear and resounding perhaps for climate change law to be implemented - explanation of climate change law and different views.
- 21:10: You must achieve this and you will find out how, but you will be measure and weighed on it - climate law.
- 22:30: We have some very good objectives, but need to make them concrete.
- 22:55: We want fewer cars and more cyclists, but the development is the exact opposite.
- 25:40: The climate crisis does not go away because the process is underway in Aalborg
- 27:40: The planning process, can be result of the political agenda
- 28:40: The planning process, usually go faster af the election period - Window of opportunity.
- 30:31: Working with DK2020, region North Jutland was the main operator.
- 31:12: Interdisciplinary work to implement DK2020.
- 31:40: Not so excited about biomass
- 34:53: Work before DK2020, Brundtland strategy,
- 35:41: There is a consensus on what you have to deliver - in term of climate planning.
- 37:43: The municipality structure, to solve problem as a whole unit - What is the “best” structure for planning climate
- 42:30: Not one solution, to solve climate planning.
- 43:00: Aalborg Municipality DNA
- 47:26: What is good citizen participation, how can we use citizen participation
- 48:50: Neglecting citizen involvement, and the time it takes.
- 49:32: Concrete challenges, is going from plan and strategy to implementation - really challenging.
- 51:25: Physical implementation, is the biggest challenge
- 51:55: Region NorthJutland, and its climate planning and strategies - Don’t know
- 56:43: Biggest focus in climate planning: How to direct the use of construction materials. What should change?

- 59:43: Others are visiting who want to learn more about planning, and the same are we doing.
- 1:01: Host this autumn for sustainable cities. More than 100 of cities are joining, where we attend to learn from different cities.
- 1:01:58: Ending the interview - small talk.