

From economic cost- efficiency to a technological and developmental opportunity?

Analysing the climate issue in White Paper 13 (2020-2021)

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Abstract

In 2021 the Norwegian Ministry of Climate and Environment wrote a report to the Storting (White Paper) on the efforts needed and the possibilities the country has when it comes to actions to handle the climate issue. It was named “Norway’s Climate Action Plan for 2021-2030” and it provides insight and can function as a tool to better understand what the climate issue is for the state and how they intend to handle it. Existing research has shown that Norway previously has largely focused on economic rationality and top-down initiatives like carbon taxes, international markets for emission reductions and quotas, and flexible mechanisms. However, with new and more ambitious targets in the Paris Agreement, many countries have moved towards a different framing of the issue. To what extent is such a modification present in the Norwegian government’s handling of the climate issue in White Paper 13?

This thesis is a practice-oriented analysis of the document “Meld. St. 13 (2020-2021)”. Specifically, I examine whether the document modifies the climate issue and what type of expertise becomes necessary and recognised by the way the issue is portrayed and understood in this document. My analysis draws on several concepts from Science and Technology Studies (STS) like issue framing, issue modification, and hybrid management. I am trying to answer the following research question: *Does the St. Meld. 13 (White Paper 13) modify the climate issue, and also modify which expertise becomes relevant for dealing with the issue?*

My examination of the document has shown that the framing of the climate issue is to a lesser extent focused on cost-efficiency and economic rationality, and to a greater extent focused on transition, transformation, opportunities, and development than what is evident in previous research. The document presents the climate issue as a more compartmentalised issue, where the different emissions categories are treated with different logic and require support from different types of expertise. The economic policy instruments, like the carbon tax, are still the most important but the necessity for other policy tools to reach the goals is communicated.

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1.0 Introduction

Reaching the EU goal of carbon neutrality by 2050 is something causing discussions in every country in Europe, with the targets for 2030 being an important step towards reaching this goal. This thesis will analyse St. Meld. 13 (2020-2021) (White Paper 13) to examine how the issue of the climate is discussed to better understand the Norwegian climate policies.

The climate crisis is becoming a larger part of discussions on how to govern societies as every year passes by. The climate is a prominent political issue for many countries, but what exactly is the issue? The type of problems that arise as the most important to handle, and the type of knowledge used to base the political decisions on, can have a crucial effect on how the issue is understood. Consequently, it can also have a large impact on how political decisions are made. The climate issue is being framed in different ways by different actors. The most known framings are those made by The Intergovernmental Panel on Climate Change (IPCC) and the UN Framework Convention on Climate Change (UNFCCC). The initial problem was finding an “optimal” level to stabilize the global climate, to not cause detrimental economic and ecological consequences. However, the IPCC made modifications to this understanding of the issue when they presented the carbon budget as a part of their Fifth Assessment Report published in 2014. Here it became clear that to reach what has been set as the maximum limit of global warming, 1.5⁰ C or 2⁰ C, there is a finite amount of greenhouse gases that can be emitted (Lahn, 2021). In Norway, the discussions have been going on since the 1980s, when in 1991 Norway became the first country to introduce a carbon tax as an instrument for their climate mitigation policies (Asdal, 2014). Existing literature shows that discussions in Norway point towards an economic framing of the climate issue. The international community points towards a different understanding: efforts to reduce emissions to ensure that global warming does not exceed the maximum limit seem to be more and more based on a green transition and a low-emissions development pathway in every country by national emissions cuts and by use of flexible emissions if necessary (Cetkovic & Skjærseth, 2019). The way the climate issue is understood is constantly changing, and the issue is being modified as new framings of the issue arise. The understanding of the climate issue in Norway would also have been subject to modifications as the boundaries of the issue evolved.

Previously Norwegian climate mitigation policies have been dominated by top-down cost-efficiency, lobbying for solutions that will not affect the economic position and future

economic growth of Norway. The Paris Agreement from 2015 has challenged this position. The tendencies from the international community that everyone must become climate-neutral by 2050 signals that the framing might have changed. Have the Norwegian position of cost-effectiveness and economic rationality been replaced or downplayed in the latest White Paper from the Government?

White Papers are a way for the Government to provide the parliament with a report on matters carried out in a particular field with the intent of discussing them, and they often form the basis of a bill or draft solution (Government, n.d.). The Norwegian Government has produced several white papers on their intent to handle, as well as their understanding of, precisely these problems on the issue of the climate. The policies presented in these white papers use knowledge and expertise to base the decisions and recommendations. The climate policies have mostly been rooted in economic knowledge and expertise (Asdal, 2011, 2014; Tellmann, 2012). Has this changed now that we no longer talk about an optimized level to reach but rather about a transformative change of society as we know it (Lahn, 2021)?

1.1 Purpose and Research Question

Based on the points from the discussions above, this thesis seeks to understand how White Paper 13 is framing the climate issue and to examine if the issue has been modified from what previous research shows. Examining the factors affecting the way Norwegian climate mitigation policy has been discussed and how the most prominent areas of interest affect the issue understanding is a way to follow the issue's development. Lastly, what type of expertise the issue understanding obtains to help solve it will also be examined. The specific research question is therefore:

Does White Paper 13 modify the climate issue, and also modify which expertise becomes relevant for dealing with the issue?

One of the things the thesis seeks to understand is in other words what kind of expertise and knowledge the policies from White Paper 13 are based on, and how that affects the way the climate issue is presented in the document. The thesis will account for previous literature on how the climate issue has been framed in the past, and what kind of expertise has been made relevant by the issue understanding of the climate crisis in Norway since 1980. There will be a discussion on whether there is a change in the latest White Paper produced by the government.

Expertise is here understood as an element of knowledge where people become experts within a certain field: for example, economic expertise in questions that involve the resources and bottom-line of an issue, or social expertise in questions that involve behavioural changes and social structural changes. Expertise is treated as a part of the larger context of policy discussions and as a part of the negotiations happening in the larger democratic institutional politics (Wynne, 2003).

As I will examine more closely in chapter three of this thesis: cost-efficiency, joint implementation, and differentiated commitments have previously been a stronghold in Norwegian climate policies, both internationally and domestically. These were the policy principles that came out of the Kyoto Protocol in 1997 and were in line with Norwegian wishes at the time (Andresen & Butenschøn, 2001). The Norwegian standpoint was very much defined by their paradoxical position as both an oil-producing country and as a climate pioneer promoting a standpoint where decreasing emissions and reducing the use of fossil fuel technologies had to become a larger focus for every country. For Norwegian competitiveness, an international agreement based on equal emission cuts in energy consumption would not be beneficial due to the already low emissions from the energy sector in Norway. The efforts to promote a global framework and approach to handle the climate issue became an important part of Norway's contributions to the establishment of international agreements. The importance of a climate agreement that would not compromise economic competitiveness and would be cost-efficient across greenhouse gases, countries, and sectors was imperative. The rationale behind this line of thinking was that greenhouse gas emissions are an international problem, and the solutions should not cause unnecessary social costs to any one country. As both an oil nation and a climate pioneer, Norway could buy emission quotas from other countries and help them reduce emissions by for example switching from coal to gas. At the same time as continuing oil production and keeping emissions stable in Norway to ensure a decrease in global emission levels (Asdal, 2011). The cost-efficiency, one can argue, has been viewed as an argument for the Norwegian government to reduce abroad instead of domestically. It was viewed as more cost-efficient to pay for these quotas internationally rather than haltering the petroleum sector at home causing Norway to base their climate policies on what was beneficial for the macroeconomic situation and future development (Asdal, 2011; Tellmann, 2012).

However, the previous understanding of cost-efficiency in handling the climate issue in global politics seems to be replaced by a new and wider understanding. An understanding where the climate issue requires both behavioural change on every level as well as a more radical and transformational change is more and more evident and accepted in recent years. The IPCC's latest report, the 6th Assessment Report (AR6) points in the direction that something has changed in how we view climate policies, with the help of the Paris Agreement. The need for emissions to be reduced completely and the high confidence that climate change is induced by humans points towards the need for national policies to concentrate on domestic reductions (IPCC, 2022). The Paris Agreement has interpreted the findings from the IPCC and created a framework where every country that has ratified the agreement needs to have nationally determined contributions (NDC) (UNFCCC, n.d.-c). This all points towards a global modification of how the issue is framed and consequently changes which type of mitigation policies are needed and what type of expertise is needed in the negotiations. It might not just be a question of how to adapt anymore but how to transform society to fit inside this new world we now live in. The change in how green transition has been viewed in comparison with economic thinking, hence the buzzword "green growth", is also something that might point towards the same change in direction. Production of new sustainable technology has a bigger focus in the world, as seen from Horizon 2020 and the new Horizon Europe for example. These are research and innovation funding programs that focuses on green and sustainable growth in the European Union (EU) (European-Commission, n.d.-c). To find out if this is the case for Norway, this thesis will examine how White Paper 13 presents the issue, and which knowledge and expertise the White Paper realises.

I will in this thesis only focus on the document itself, and not how it was received and handled by the Storting. I am aware that the parties differed largely on their opinions and that there was no agreement on the contents of the White Paper. This subject would be interesting to study in itself, however, that would make the scope of this paper too wide, and I have therefore decided to only examine and analyse White Paper 13 in isolation. In addition, it is relevant to mention that White Paper 13 was written under the previous Conservative Party government coalition and that a new Labour Party lead government coalition rose to power the year after in 2021 (Eriksen, 2021). However, there has been no updated White Paper on the issue, and it is therefore both academically and socially relevant to analyse this document for several reasons.

The academic relevance lies in the critical analysis of whether the existing literature on Norwegian climate policies is a representation of the actual situation we are in today. This thesis can provide an update on the Norwegian framing of the climate issue and examine what type of expertise and thinking is affecting the climate policy seen in the document. In addition, explicating the knowledge and expertise can provide a deeper understanding of which framings of the climate issue are in existence. It can provide an understanding of how the problematisations of the issue exist in policy debates as well as how the issue is enacted in policy discussions through White Paper 13. By explicating the expertise used in policies I can study how different types of expertise are shaping the issue in different ways. Understanding what expertise and knowledge the climate policies are based on, as well as how the issue is defined by White Paper 13, is also socially relevant. It can help enhance public understanding and engagement in addressing climate change by making explicit what, why, and how Norway conducts its climate policy. Following this document can therefore provide an understanding as to how the Government as an actor renegotiates and modifies the climate issue.

2.0 Theoretical and Methodological Approach

In this thesis, the goal is to understand how the issue of the climate crisis is being defined, described, understood, and modified. Which actors, actions, skills, and expertise are being realised in White Paper 13's description of the issue? A natural theoretical starting point for this is the literature within Science and Technology Studies (STS) that studies the emergence and modification of public issues, and to which Noortje Marres and Kristin Asdal are among the most known contributors. The theoretical discussion will further examine expertise and how it is relevant for political discussions and move on to issue modifications before the methodological approach of practice-oriented document analysis will be explained.

2.1 Issues and how to study them

An issue is a topic, problem, or challenge up for debate, and defining it is a large part of democratic institutional politics because it decides which actors to involve and on what terms. The issue-defining practices are often understood as discursive because of the mobilisation of words, symbols, and ideas (Marres, 2007). However, Science and Technology Studies (STS) have taken an ontological turn where it is viewed more as an intervention in different “collectives” or “life worlds” where material, non-human, and social components are included (Marres, 2007, p. 762). Asdal explicates this when she says “*The emergence of objects and issues must be traced and analysed simultaneously*” (Asdal, 2015, p. 76). The ontological turn puts focus on how more than just words are a part of issues, the technologies of politics are included in the issue understanding and part of shaping the issues as they evolve. Asdal (2011) developed the term “technologies of politics” to encapsulate the different ways scientific knowledge is included in politics, as well as the technical arrangements and procedures that contribute to shaping and making politics possible. They are both material and technical and are the devices, routines and practices that shape the issues and content of politics. Like the way numbers and measurement instruments have contributed to making nature a governable entity. Documents are one of the most widespread technologies of politics, both in how they help the administration govern according to rules and how documents can contribute to shaping and making issues real and definable (Asdal, 2015).

The study of issues has become a well-established topic in STS and allows for an opening up of the processes of political problems as well as a deeper understanding of which expertise and which questions count and need answering (Lahn, 2021). An issue is “*a question that has become contested, politicized, and which comes with the capacity to gather a public of*

interested actors around itself" (Marres, 2005 in Asdal, 2015). We cannot be satisfied with the notion that something *is* an issue, there is a need to analyse how an issue emerges, what kind of issue it is, how it is enacted, and what effects it has. Callon (2009) suggests focusing on how an issue is defined into specific problems, i.e., how it is problematized (Lahn, 2021). This focus on problematization allows for an analysis of how issues are modified and changed (Lahn, 2021), and documents are a good way to track this process in political issues (Asdal, 2015). By following the alternative articulations when describing the issue, we can follow which actors, what kind of knowledge and expertise, and which considerations are included and excluded. This opens the issue up for some and closes it down for others (Marres, 2007). The concepts used to name things, phenomena and aspects of the situation are an essential part of how issues are recognised and understood (Asdal, 2015). Understanding the issue and how it is modified is an important aspect of democratic processes, and the climate crisis is something that influences the democratic process very much in Norway.

Defining, interpreting, and organising an issue is what can be understood as framing. Framings are ways of simplifying and processing an issue to come to an agreement (Callon et al., 2009). Policies and responses are a product of the meaning and importance given to certain principles within a specific framing. The framing decides what can count as relevant knowledge and is a part of making an issue specific. This leads to vulnerability from other framings. When a framing is being questioned it is challenged or subject to overflows (Callon, 1998). This means that the relevance of the frame and the solutions it creates are questioned, and the actors defending the framing start defending it by deleting criticism. This is what has been called a strategy of purification (Latour, 1993 in Hermansen & Sundqvist, 2022). In the case of the climate issue, when one solution is proposed there are boundaries as to what that solution can contain. Overflows happen when that solution is questioned and critiqued as not good or covering enough or marked as invalid. The purification strategy is when the solution actors start defending their solution by stating that the questions or critique are either wrong, false, or invalid in the case.

2.2 Hybrid Management

The purification of framings is what Callon has argued increases conflict. This can be interpreted to mean that a purification strategy might not be the only solution. This is where Hermansen & Sundqvist (2022) suggest the use of the term "hybrid management", which entails handling multiple demands and curbing conflict. This is necessary because overflows

are not the exception, it is the rule. Especially in situations of uncertainty, which the issue of the climate most certainly is. This comes out of Callon's (2009) work on hybrid forums. Callon and his colleagues say that controversies are the place where framing and overflows come into being because controversies are the absence of agreed knowledge. Hybrid forums are where different groups with dissimilar expertise and knowledge share information and agree or disagree on the matter of concern. Hybrid forums are where the groups come to discuss the different options available from each group's standpoint (Callon et al., 2009). Hybrid forums are the place where hybrid objects are dealt with (Sundqvist, 2014). We can argue that Hermansen & Sundqvist (2022) take it one step further by inviting a debate about how hybridity is managed and handled. They talk about "hybrid management" in the context of top-down and bottom-up initiatives in Norwegian climate policy, which can be seen as ideal-typical strategies for handling an issue. Top-down designs are based on the idea that all resources are scarce and that the targets should be met in a cost-efficient way, where economic and rational actor theory is the foundational expertise needed for this type of policy design. Bottom-up design is more focused on emission sources at the sectoral level and solutions to either stop or minimise emissions from those sources. Law, engineering, and sociotechnical transformations are more relevant expertise for bottom-up design (Hermansen & Sundqvist, 2022). "Hybrid management" is about studying empirically how actors utilise different practices to manage the hybridity that exists as different combinations of the two purified ideal types, bottom-up and top-down.

Hybrid management is about coordinating the "*problems, policies and knowledge located within different frames*" and balancing the multitude of demands that exist (Hermansen & Sundqvist, 2022, p. 7). Hybrid has long been used when talking about people, artefacts and institutions that combine elements from political and scientific forms of life. The purification strategy has been about differing between the elements so that the hybrid again goes back to being simply political or scientific (Miller, 2001). However, as already stated it might be another way to approach hybridity, especially if we follow Callon's argument of it being a conflict-oriented approach. By instead viewing the situation through the theoretical approach of hybrid management we are allowed to look further into what kind of groups are involved in the issue and study the variety of domains that it touches upon and address (Callon et al., 2009). This can allow us to study the boundaries made, or the framing, and see what states of the world (or scenarios) are prescribed and how overflows may occur from these. At the same

time, we are allowed to take apart the situation and see more clearly how different elements are put together to manage the inevitable hybridity.

2.3 Expertise in public issues

As an issue is defined, worked on, and eventually settled or framed, it is described using different concepts that can involve or exclude different actors, actions, expertise, knowledge, and skills. The relevance of expertise in issues is twofold; issues can both include a certain type of expertise as it is being defined and it can exclude a certain type of expertise, depending on how broadly the issue is defined and how uncertain the issue is when it comes to definability. Expertise can be necessary for policy advice when it is a political issue, but expertise can also be crucial for the issue definition if it is a technical or scientific issue. However, with simplistic definitions like these, we exclude important questions which are scientific or public. Then, the debate is much about which questions are being asked and what kind of boundaries exist within the issue (Wynne, 2003). The understanding of expertise's role in issues is a debated subject (see Wynne (2003) and Collins & Evans (2002)). In this thesis, the understanding of Wynne (2003) is followed. He understands expertise as a part of the negotiation, and that the right questions about knowledge claims, commitments and meanings must be investigated and not "*presumed and left implicit*" when expertise is participatory in issues (Wynne, 2003, p. 403). There is a need to ask questions to figure out what is relevant, for whom and why (Hermansen & Sundqvist, 2022).

For this thesis, the interesting aspects are how different framings of an issue and expertise are handled in a political document and made relevant and realised. How the issue of the climate crisis is understood, described, and defined and the type of expertise made relevant by the practices evident in the document are areas of interest and will be analysed in chapter four of this thesis. What type of issue the climate crisis is in the eyes of the Norwegian Government and what type of knowledge, expertise, and skills are necessary for negotiating the public issue of how the Norwegian state is going to handle it, are questions the analysis and discussion part of this thesis will attempt to answer.

2.4 Practice-Oriented Document Analysis

To be able to analyse White Paper 13 as a political document and as an important technology of politics, I am going to use practice-oriented document analysis. Documents have the power to modify and change issues because they can provide new developments to investigate or

attempt to end disputes (Asdal, 2015). Texts, print, and publishing are key technologies of human history and an important part of modern society. They are the results of concrete work and very little of importance happens in society without the involvement of documents. Documents have a force, however situational, and can for example define an issue, conclude a controversy, or introduce new situations. Researching and understanding them can provide important insights into how society functions. A document entails an action and is relational and material at the same time (Asdal & Reinertsen, 2022). Documents are an active part of a situation: “*Documents enter into a number of concrete practices and in themselves contribute to shape these practices*” (Asdal & Reinertsen, 2022, p. 4). It is through the motion of documents and texts, codified knowledge, that information can travel and make issues come into being. Thinking about documents as tools enables us to research the role documents play in a specific situation, how their properties can affect the situation and what effect they can cause in society. Taking a practice-oriented turn to document analysis means viewing words and sentences not as signs, but as practices that shape and form the objects we speak of and determine our practices: “*Words do things*” (Asdal & Reinertsen, 2022, p. 213).

White Paper 13 is a document that provides a detailed overview of the climate policies and efforts that the Government wants and is willing to commit to. It will provide insight into what is expected of the different parties and stakeholders in Norwegian society when it comes to the efforts to reduce emissions in the years up to 2030. Studying White Paper 13 is a way to get access to the materialities of the state, the way the Government understands the environment and the issues that society faces. By tracing texts and analysing what documents are stating, we can follow issues and gain an understanding of how they entail information and knowledge on the state of a situation (Asdal, 2015).

The reason for choosing White Paper 13 is because it is a document that describes the intentions for Norway’s future from the view of the Government. Following the white paper can provide insight into how the state views the issue of the climate crisis, their intent for handling it and by which means this is to be achieved. It is also important to follow the framing of the issue, to see if the climate issue has been modified or is viewed with the same boundaries as previous literature shows have been the case before. Norwegian climate policy history will be examined more thoroughly in chapter three.

2.4.1 Research Ethics

The document I have chosen to focus on is publicly available through the government's website, government.no, and this is where I have retrieved White Paper 13. I have read the English-translated version of Norway's Climate Action Plan for 2021-2030 and have chosen to not read the Norwegian version. This is an active choice made both to avoid language confusion and to ensure effective use of the time I have had available. I wanted to be sure I made a thorough reading of the document and seeing as this thesis is in English, I felt it would be best to focus on the English version. It should be a complete translation; however, it is important to remember that certain aspects can get lost in translation. Nevertheless, it is the Government's translation which should make it an as good version of the White Paper 13 as the Norwegian one.

I also chose to not do any interviews, also because of time, and have therefore not handled any personal information or private documents. This has led me to not have to adhere to any formal criteria or applications. However, research ethics are about more than ensuring the integrity, safety, and well-being of the participants. It is also about behaving truthfully and responsibly and acknowledging others in the research community (NESH, 2022). Handling existing literature with these aspects in mind is important during the process of writing this thesis to ensure that the researchers are not mentioned disrespectfully.

In addition, being aware of one's position and competence is important. It is relevant to mention that the focus I have on White Paper 13 can lead to different conclusions and assumptions than if someone else were to research the same empirical material. My interests with my background and understanding are different from others, and the thesis is therefore a reflection of my analysis of the topic. The risk with only doing document analysis is that my own opinions and views might cloud the information presented in the documents because I am the one interpreting them. I have my own opinions on climate policies and analysing the material on my premises without my opinions clouding my understanding of the contents has been difficult. I have had to rewrite many chapters several times to ensure that the information is as neutral as possible to ensure an as real representation of the issue as possible.

3.0 Climate Policy History

In this chapter, I will examine existing research about Norway's climate policies from the 1980s - 2020. This is to be able to say more definitively whether White Paper 13 modifies the issue or confirms it according to previous research and to be able to examine what type of expertise Norwegian climate policies have been based on in the past. I have chosen to divide the next chapter into two subchapters, 1980's-2000's and 2000's-2020, for the sake of structure.

3.1 1980s – 2000s

The first impactful event happened in the 1980s after over a decade with discussions on the ecological consequences and aspects of continued use of natural resources in Norwegian society (Asdal, 2011). The United Nations (UN) published the report "*Our Common Future*" in 1987 and it had a specific effect on Norway because the Norwegian Prime Minister was head of the committee responsible for the report. This caused an expectation for action from Norway (Asdal, 2014). The report argued that fossil fuel consumption had to be reduced by 50% in 30 to 40 years, and the Government decided to stabilise carbon dioxide emissions at the 1989 levels by 2000 as a result (Asdal, 2011). This decision has been seen as Norway wanting to set a good example for the rest of the world and take action to limit greenhouse gas emissions (GHGE). This has been called a part of the "*national action*" climate policy approach based on domestic reductions (Hovden & Lindseth, 2004).

The emissions were not stabilised. Carbon emissions increased by 11% between 1990 and 2007 (Asdal, 2011, p. 175). Earlier the environmental issue had engaged with the economy, and it was believed that conflict would not exist between the two interests: economic growth and environmental protection. This was contingent on growth based on other competing industries besides the petroleum sector. The petroleum sector had in fact been scheduled for an increase in production. The fear was that an international agreement or national tax on CO₂ emissions could limit the production of oil that was planned because the oil demand would be reduced by an agreement to look for other energy sources. This could happen if the efforts were based on a national reduction percentage that had to be reached. This could affect the economy and the resources available to Norway, and the Ministry of Finance then became one of the most important ministries to handle the case of emissions. The issue of the climate was viewed as one where a long-term perspective had to be taken, and the Ministry of Finance became the coordinating office. The issue of the climate was not viewed as one that needed

immediate urgent change, but one that had to be gradually included in the present and future economy of Norway. The task then became to make climate change a part of the market (Asdal, 2014), which entails the importance that economic instruments, theories and reasonings were given in the issue of the climate (Asdal, 2011).

The policy instrument designed to help stabilize emissions, a potential green-tax scheme, was meant to affect mainly the transportation sector to use less fossil fuels. This was because the transport sector was singled out as the most emission-rich sector in Norway. The Ministry of Finance, as the ministry in charge of managing resource issues, had to determine if this green tax could influence the macroeconomy. The Ministry of Finance saw itself as the department responsible for resource management, and it did not matter what type of resource it was. This was the first instance in which the climate issue emerged within the Ministry of Finance. The work of including climate change with the macroeconomy and making it a clear resource issue, ensuring that the environmental cost was integral to the price, became one of the challenges the Ministry of Finance had to deal with (Asdal, 2014).

The Ministry of Finance did not support the suggestion of the green tax scheme because they saw it as a hindrance to the future Norwegian growth, as exemplified in this quote: "*The ministry argued that introducing green taxes could lead to reduced economic activity, increased prices, and reduced competitiveness, and hence curtail economic growth*" (Asdal 2014, p. 2116). The concern within the Government, as with the reaction to the green taxes by the Ministry of Finance, was directed towards the effects the economy might suffer from these policy instruments and not the climatic consequences. The climate issue became a risk issue to Norwegian economic growth. First by potential national measures, like the green taxes, that could halter future economic growth, and secondly the risk of global measures that could diminish the value of oil and consequently create a less profitable market for the Norwegian petroleum sector (Asdal, 2014).

A different way to approach the issue emerged, and an overall global reduction became a way to reach the goal of reducing emissions. An overall global reduction meant that national reductions did not matter much, the focus had to be on a global percentage or set goal for reducing emissions and where those reductions took place did not matter. If the global emissions were reduced, one country, for example, could increase emissions if other countries reduced more making the global emissions move in the right direction. Making sure that an

international agreement focused on an overall global reduction in emissions meant that Norway could increase their emissions following the comparative advantage that the country had for producing oil and gas. This approach was highly influenced by the most foundational approach to resource management; a free resource would be overspent. However, if the resource was given a price, it could be used in the right way. Emissions could then be thought of as a resource that had to be spent in the most efficient way, and the problem was best thought of from a global perspective. By helping other countries change from coal, which was the most emissions heavy energy source, to gas, the increase in emissions in Norway would be cancelled out in the overall calculations. This way of thinking was essential if gas-based power stations were to be built in Norway, and the argumentation was closely referenced to macroeconomic research (Asdal, 2011). This gas power debate became a sort of “battle” between the two directions Norway could take: a national climate policy focused on domestic reductions, or a global system where international cost-efficiency was the focus and the reductions happened where it was cheapest to reduce ensuring that Norway could continue with their oil production (Andresen & Butenschøn, 2001). The importance of a global agreement on flexible emissions reduction became more and more evident, and by the middle of the 1990s, the approach of leading by example got fewer and fewer supporters inside the Government (Hovden & Lindseth, 2004). This debate became the place where the dualistic country Norway became evident, Norway as a climate pioneer and Norway as an oil nation. This cognitive dissonance has affected the climate policy in the upcoming years, even though it can seem like Norway as an oil nation focusing on financial benefit has won much of the debate (Eide et al., 2014).

Promoting solutions that worked on a global scale and that were cost-efficient was crucial for Norwegian strategies (Asdal, 2011). The KLØKT-report from 1992 caused the unilateral action and national tax discourse to be replaced by the proposal for an international climate agreement (Tellmann, 2012). The 1992 Climate Convention adopted the principles of cost-effectiveness, joint implementation and differentiated commitments that were very much in line with the Norwegian position. The Kyoto Protocol ended up allowing Norway to increase emissions by 1% above the 1990 levels in 2008-2012, all six greenhouse gas emissions were included in the agreement, and the flexible mechanisms were further developed to include Clean Development Mechanisms (CDMs) (Andreasen & Butenschøn, 2001). CDMs are the implementation of emission-reduction projects in developing countries (UNFCCC, n.d.-a). Since the adoption of the Kyoto Protocol in 1997, Norway started planning for how to uphold

the commitments on emissions reductions made there. In 1998 an expert commission was appointed to discuss and advise how an emission trading scheme (ETS) could function to reach the targets from the Protocol (Sæverud & Wettestad, 2006).

To sum up: from the beginning in the 1980's and until the end of the 20th century, it was developed a dualistic approach to the climate crisis. Some fought for a national approach where reductions in emissions should happen domestically, and Norway had to set a good example for others. Some fought for a cost-effective global approach where Norway should help other countries reduce emissions for Norway to continue economic growth based on increased production of oil and gas. These two approaches are named “national action” and “thinking globally” by existing literature (Hovden & Lindseth, 2004). The tendency until now is that Norway as an oil nation became the narrative inside the Government, and the efforts to ensure an international agreement based on flexible mechanisms in the Kyoto Protocol show exactly this. The global approach is what the existing literature shows has been the government's approach until now (Andresen & Butenschøn, 2001; Asdal, 2011, 2014; Eide et al., 2014; Hovden & Lindseth, 2004). However, things started to change in the first decades of the 21st century.

3.2 2000s – 2020

Global trading was still an important prerequisite for Norway to be able to reduce emissions and the effort to create a Norwegian emissions trading scheme (ETS) was well underway in the early years of the new century trying to be ready by 2008 when the Kyoto period was to begin. In 2004 the design for the European Union (EU) ETS and Norway's ETS began to converge, and Norway joined the EU ETS in 2008 (Boasson, 2013; Boasson & Lahn, 2017; Sæverud & Wettestad, 2006). However, in 2005 a new government was formed, and its political platform included the ambition to introduce sectoral climate mitigation plans. This was a break from the international focus that had strongly defined the climate policies in Norway up until that year. From 2005 till 2007, the climate issue became more and more evident in policy discussions. A Climate Settlement was agreed by parliament in early 2008, and the commitment was to reduce 30% GHGE by 2020 compared to 1990 levels. This settlement was intended to secure long-term climate policies less vulnerable to changes in the government composition. Some national action had to be included in the settlement to please some of the smaller political parties in the government, and it was agreed that two-thirds of the efforts to reach the 2020 target were to be domestic action. This was seen as a break from

the pure top-down cost-efficiency principles that had been the focus of previous agreements. The details of how this was to happen were never explicated; however, the wording in the official documents after this shows a tendency for both reductions abroad and at home, meaning a hybrid of the two approaches mentioned above (Hermansen & Sundqvist, 2022).

Some national action was evident in the first decade of the 21st century. Gas power without carbon capture and storage (CCS) was banned, gradual phase-in of biofuels, as well as the promotion of electric vehicles since 2008 as a part of the national climate policy gives a sense that the Government might began to consider combinations of approaches instead of a pure cost-efficiency approach (Boasson & Lahn, 2017; Hermansen & Sundqvist, 2022). Norway pledged to overachieve the Kyoto target by 10% as well, and this was intended to be met by international emissions trading alone. In addition, Norway declared an intent to reduce GHGE equivalent to 100 % of its emissions by 2050, making Norway the first country to aim for carbon neutrality. This was all to be done by buying emission allowances from other countries and by following the global cost-efficiency approach (Boasson & Lahn, 2017).

The Norwegian climate policies remained largely focused on buying emissions allowances through the EU ETS, and in 2012 Norway signed up for a second Kyoto period where a 30% reduction of emissions compared to the 1990 levels by 2020 was the target. Other EU member states were beginning to focus on targets for 2030, but Norwegian discussions were centred on 2020 (Boasson & Lahn, 2017). At the Climate Summit in Warsaw in 2013 it was decided that the future Paris Agreement should be based on national targets instead of the overall global goals that could be distributed amongst partners. This incited the process for Norway to engage in discussions on targets for 2030, making sure they could present their targets in due time before 2015. This was to ensure that their reputation as a country that took the climate issue seriously for the international community was maintained. This also meant that Norway could clearly state their desired direction for the new agreement, which was a continuation of the Kyoto principles of cost-efficiency and flexible mechanisms (Christensen, 2018).

However, the EU presented their targets for 2030 before Norway, and Norway could not have lower targets than other European countries. In this way, the EU became a leading actor in the public debate influencing the inner debates in the Norwegian Government as to how the national targets were to be designed. Inside the Government, the wish for more national targets grew and it was important to make sure that the Norwegian plan could be trusted to be

followed through even if the government changed composition after future elections. There was uncertainty connected to what a continued connection with the EU climate policy could mean for Norway. Especially with what costs a national target could mean and the possibilities within the EU ETS. In addition, the same debate that had characterised the debate since the beginning was still evident here, whether to cut emissions at home or internationally (Christensen, 2018).

The Ministry of Finance lobbied the importance of flexible solutions because of the negative economic consequences it could have if the Paris Agreement did not support global emission cuts, and the EU ETS was seen as a good alternative in an uncertain situation. The EU targets were 40% emission cuts both in ETS and non-ETS sectors by 2030, a separate target for the two sectors and the non-ETS sector would have a target between 0-40% with room for flexibility (Christensen, 2018). The non-ETS sectors were to be covered in the effort-sharing regulation (ESR) where the reductions are to be at the EU level, meaning a total of 40% reduction, compared to 2005 levels, in emissions from domestic transport, buildings, agriculture, small industry and waste at the EU level and not necessarily domestic reduction (European-Commission, n.d.-a). This was viewed as a more flexible solution for Norway than national targets but with the amount of uncertainty around how much flexibility this agreement could entail the national targets were not explicated. However, when the agreement was publicised, it was made clear that the probability of more national cuts was high (Christensen, 2018). Nevertheless, the coupling with the EU now on all emissions, both the EU ETS and the ESR, meant that Norway could continue its main approach to climate change, but changes in the execution were visible (Boasson & Lahn, 2017).

According to existing literature the focus on flexible mechanisms, and the policy design Norway has utilised in the years up to 2015 have been largely cost-efficient and internationally based due to the main target of not disrupting the Norwegian economy and causing it detrimental effects. Even though I have tried to show that the situation has not been all that clear cut, it became more and more evident in the years up to and after the Paris Agreement that the situation is more complex than simply top-down or bottom-up policy design. The two competing approaches have had surges of attention within the government in the previous years, with the global approach being the winner inside the government. Hermansen & Sundqvist (2022) point to the climate settlement in 2005 as the point where Norway's policy design became less top-down "pure" because the elected government at the

time launched their political platform introducing several sectoral climate mitigating plans. The Climate Settlement in 2012 was a continuation of the Climate Settlement from 2008 which directly resulted from negotiations after the 2005 political platform introduction, where Norway mentioned several bottom-up initiatives. CCS and emission reductions in the transport section were mentioned as important for Norway's future climate policy. This shows how the national approach has been given more attention and focus since 2005. The initiatives were mentioned as possible solutions in the case of market failure or inadequate market information. The important aim for flexible mechanisms and an international carbon market were nevertheless articulated clearly, and any specifics on how to combine the top-down and bottom-up initiatives in the case of a new settlement without support for flexible mechanisms were never made clear (Hermansen & Sundqvist, 2022).

Norway's intended nationally determined contribution (INDC) to the Paris Agreement was to reduce emissions by at least 40% compared to 1990 levels by 2030, and this was submitted in March 2015. This goal was the same as the goal for the EU, clearly showing the cooperation between the two. This became the nationally determined contribution (NDC) when the Paris Agreement was ratified in 2016. The achievement of this goal was contingent upon the cooperation between Norway, Iceland and the EU (UNFCCC, 2022). According to the Paris Agreement, where the NDCs are the backbone of how countries are to achieve the long-term goals of the agreement, every country must submit new or updated NDCs every five years starting in 2020 (UNFCCC, n.d.-b). Norway submitted their updated NDCs in 2020 where the goal now had been increased to entail an emission reduction of 50% and towards 55% compared to 1990 levels by 2030. This is intended to be achieved through cooperation with the EU. However, Norway stated in their enhanced NDC that if the EU does not enhance their contribution, it will use Article 6 under the Paris Agreement to fulfil its enhanced contribution even though it goes beyond its agreement with the EU of 40% reduction (UNFCCC, 2022).

There have been produced several White Papers on climate policy since the turn of this century, in 2008, 2012, 2015 and 2017 (Hermansen & Sundqvist, 2022), and the latest is White Paper 13 2020-2021. These are policy documents where the overarching principles of Norway's climate policy are laid out. They provide insight into what kind of framing exists as well as the policy design the state promotes. What the previous White Papers have shown is that Norway's climate policy is heavily leaning towards top-down, cost-efficiency principles realising economic expertise while still having some bottom-up initiatives that influence the

overall framing of the issue. Nevertheless, analysts have argued that with closer cooperation with the EU since 2015, Norway has moved from international cost-efficiency to European cost-efficiency, which means a continuation of the historical tendency to argue for an as pure as possible top-down approach lead by the Ministry of Finance (Christensen, 2018; Hermansen & Sundqvist, 2022). Nevertheless, the tendencies for a hybrid solution have been picked up on (see Hermansen & Sundqvist, 2022; Tellmann, 2012).

What has been evident in the framing of the climate issue from previous research is that it is about cost-efficiency and a need for a global approach to tackle the consequences of a rising global temperature. The temperature is dependent on GHGE, and there is a need to reduce emissions to deal with the issue. For Norway, the focus has been an international agreement where flexible mechanisms, emissions trading, and a carbon tax are the main instruments. The use of economic principles and rationales, a top-down design, is evident from some of the main actors in the climate policy developments, namely the Ministry of Finance.

Nevertheless, some tendencies show a mix of policy tools, instruments and initiatives and the Paris Agreement can point towards a change in the focus for future policy design. Some researchers have argued that even though the economic top-down initiatives seem to be winning the discussions in official documents so far, the practical execution of the issue might not be as pure as presented (Hermansen & Sundqvist, 2022; Tellmann, 2012). The next chapter will analyse the latest White Paper 13 to examine the framing of the climate issue and see if and in what way it is modified.

4.0 Meld. St. 13 (2020-2021) Report to the Storting (White Paper)

This chapter will be an analysis of White Paper 13 (2020-2021) to understand how the climate crisis is enacted in the Norwegian government. In the first section, I will try to explain how the document speaks and determines through text, models, and visual representations the foundation for why and how the climate crisis is part of society and the need for action to tackle it. I will show how the document creates the state of the country and the world, and in what way the document presents the action and state of the issue. Further, I have chosen three areas I have deemed most striking about the document's practices. This can help provide an answer for whether White Paper 13 points to a modification of the climate issue in Norwegian politics and which types of expertise becomes relevant by the document's practices.

4.1 Structural Practices and Overall Ambitions

The first thing the document does is divide the information into three parts. The first part is called "*Part I Introduction*" and there are two introductory chapters in this first part of the document. They are meant to establish the main ideas, purpose, and direction of the document to gain the reader's attention and make them understand what this document is supposed to be about. The other parts are called "*Part II Norway's Climate Action Plan for 2021-2030*" and "*Part III Norway's green transformation process*" (Meld-St-13, 2020-2021). The names of the different parts give a sign that this document might create the need for a transformation of society and presents the intentions of a plan for how Norway is to act on the climate issue. From the table of contents, we can see that part two is divided into three chapters each entailing their own so-called "pillar". The first pillar deals with non-emissions trading scheme (ETS) emissions (chapter three), the second pillar deals with the land use, land change and forestry (LULUCF) sector (chapter four), and the last pillar deals with ETS emissions (chapter five).

Non-ETS emissions are the emissions from the sectors not bound by the European Union (EU) ETS that Norway is a part of, which entails emissions from transport, agriculture, industrial processes, and oil and gas extraction (Meld-St-13, 2020-2021, p. 34). The sectors and gases covered by the EU ETS are carbon dioxide (CO₂) from electricity and heat generation, energy-intensive industry sectors, aviation within the EEA and departing flights to Switzerland and the United Kingdom, and maritime transport, as well as nitrous oxide (N₂O) and perfluorocarbons (PFCs) ((European-Commission, n.d.-b). The information on which gases and sectors are covered by the EU ETS had to be found on the European Commission's

website about the ETS because the document does not explicitly state them. They are only mentioned in comparison with the non-ETS emissions, as shown in Figure 1. The amount of information that is given about the non-ETS emissions vs. the ETS emissions indicates that the non-ETS emission has been given more space and might be of more importance for this document. This is strengthened by the non-ETS emissions specific focus in chapter “2.4 Norway’s climate targets” (Meld-St-13, 2020-2021, p. 37).

This divide between the different emissions sources is presented in a figure, Figure 1, from Statistics Norway on the emissions (million tonnes CO₂-eq) split between the ETS and non-ETS sectors.

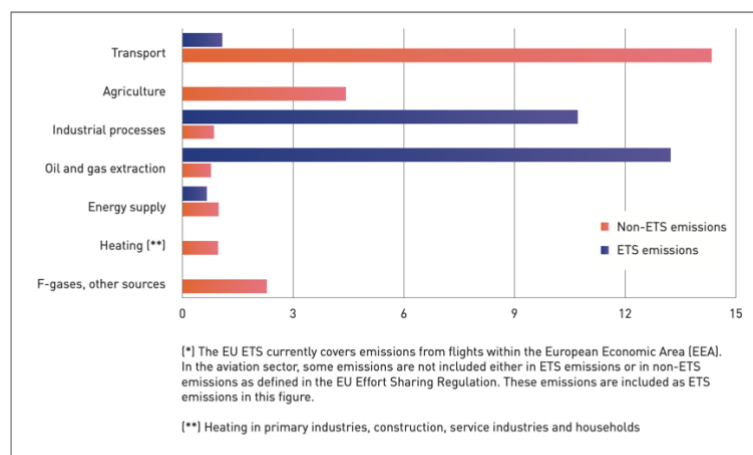


Figure 2.6 Norwegian emissions (million tonnes CO₂eq) split between the ETS and non-ETS sectors (2019). Source: Statistics Norway and Norwegian Environment Agency

Figure 1 (Meld-St-13, 2020-2021, p. 34).

Figure 1 is not mentioned or discussed in the document, it seems to simply be there as a visual aid to help understand the divide between ETS and non-ETS emissions. However, it can point towards a clear divide where one of the main areas of the climate issue, emissions, is being problematised into different groups. It can point towards an understanding of emissions first divided into sectors making them easier to handle mathematically, and then put into different groups making it easier to differentiate between the actions required within those groups. This can even be understood as an attempt to create two separate issues: one issue of ETS emissions and one issue of non-ETS emissions. This is strengthened by the fact that part two of the document uses these three pillars to navigate through the chapter division based on the differentiation of emissions.

The LULUCF sector even adds a new group into the mix and creates an even bigger divide. It makes the focus areas definable and easy to put into a category. From this the document reinforces the clear categorisation of emissions sources, creating groupings of sources that need action and transformation if we are to understand the naming of the three parts of the document as a statement for what the document is presenting. Having figures that visually represent which pillar each of the chapters in part two is going to be about creates an even bigger focus on the divide between the three. At first sight, it can invite an understanding that these three might be a way to make the issue more tangible. This is shown in Figures 2, 3 and 4.

3 The Government’s plan for cutting non-ETS emissions



Figure 3.1 The EU's 2030 climate and energy framework is divided into three main pillars, one of which deals with non-ETS emissions.

Figure 2 (Meld-St-13, 2020-2021, p. 47)

4 The Government’s plan for enhancing removals and reducing emissions in the LULUCF sector



Figure 4.1 The EU's 2030 climate and energy framework is divided into three main pillars, one of which deals with the LULUCF sector.

Figure 3 (Meld-St-13, 2020-2021, p. 148)

5 The Government's plan for cutting ETS emissions



Figure 5.1 The EU's 2030 climate and energy framework is divided into three main pillars, one of which deals with ETS emissions.

Figure 4 (Meld-St-13, 2020-2021, p. 170)

As we can see from Figures 2, 3 and 4, the colour palette on the visual representation of the pillar belonging to the upcoming chapter is highlighted to ensure that there is no doubt which type of emissions that chapter will be discussing. In this way, the document clearly separates between three distinct pillars that need to be handled separately and as an issue on their own. The document's design reinforces the understanding that each pillar needs to be handled on its own, and not as simply emissions. The trisection can also be interpreted as a sign that bottom-up policy design is influencing the way emissions are being viewed. Bottom-up approaches are more focused on sectoral levels and defining emissions into three main areas and then into more specific sectors again can be a way to assign specific policy options more clearly. This trisection points to a change in the overall level of how the issue is being framed.

The fact that emission sources are being defined and put into separate groups gives the impression that differentiated initiatives, maybe even a mix between top-down and bottom-up, are a source of inspiration in this White Paper. The attention directed to emission sources and discussions on how to limit them is the definition of bottom-up initiatives and can be a sign that top-down initiatives no longer are the main approach for emissions altogether. Just by not simply talking about emissions as a collective term but dividing them into different source-related subgroupings can be a sign that the considerations of a larger mix of policy tools and designs are being considered now.

4.1.1 Cost-efficiency in a national context

Continuing from this first impression of how the document is divided into separate chapters, we can now go on to take a deeper dive into what the two introductory chapters are showing.

Reading the document, the first thing we meet is the introductory chapter named “*a plan to cut emissions, not economic growth*” (Meld-St-13, 2020-2021, p. 11). This is a statement as well as an intention it seems, to show distinctly that the idea is that economic growth and emission reductions are interconnected, but not dependent on going in the same direction. One can make negative changes in one area without interrupting the positive possibilities for the other. However, things are not so clear-cut. It is stated clearly that the economic costs will be evident in this process of cutting emissions, but the costs of not acting would be far higher. This could mean that the intentions presented in this document are adamant in their effort to make sure that this White Paper 13 is in fact “*a plan to cut emissions, not economic growth*”. This could be a message that the economic situation of Norway still is of vital importance for the framing of the climate issue, and of the mitigation policies that will be implemented. The statement that it is more cost-efficient to act now rather than later is a part of this message of making sure that economic growth will continue.

The way this is introduced also gives the impression that the approach of more national action might be a bigger influence now than what existing research indicates has been the situation previously. The economic considerations have been made with the outcome that acting now would be in the best interest of the country by thinking about cost-efficiency first. This is strengthened by another textual example from the introduction chapter which says that “*Norway will have to go through a major transformation process, which will involve reducing emissions but not hampering development*” (Meld-St-13, 2020-2021, p. 12). This is phrased in a different way than the name of the chapter, but the same message can still be conveyed. Even though Norway needs to increase efforts to reduce greenhouse gas emissions (GHGE) it will do so by making sure that Norway will have strong foundations to lean on and will be able to grow and remain competitive.

This last extract from the document can convey the change in the international vs national debate that has been ongoing in Norwegian policies in the last four decades. “*Climate change is a global problem, but emissions are caused by actions and processes at local level*” is another quote that can point to the different ways in which the intentions in the document have changed from a clear cost-efficiency argument to an argument more focused on how Norway might intend to achieve economic growth (Meld-St-13, 2020-2021, p. 11). Which can be interpreted to mean development and a greater focus on the national approach. The document states in the introduction that local-level actions and processes are the cause of

emissions, giving the national approach more focus and importance in the planned climate policies. The issue is being framed, as seen in this first chapter, as one dependent on climate policy intended not only to cut emissions but improve welfare standards, create a better Norway, and ensure sustainable growth of the Norwegian economy. In fact “*Value creation is an essential basis for halting climate change, not a barrier*” (Meld-St-13, 2020-2021, p. 12). This strengthens the belief that economic growth is an important focus and goal in this process of transitioning into a green society, but as a part of a national approach. At the same time, it can be a sign that the issue has been modified to involve more opportunity than it might have been viewed with before. The transition and transformation of society can be an opportunity for Norway to reinvent itself and gain economic, social, and environmental benefits if it is done right. The difference is most clearly seen in how these statements can be interpreted to mean a national, domestic, and local change. It can be interpreted to mean that a change on every level is necessary, which is different from existing literature showing that previously the focus has been on the cost of emissions reductions and how that cost had to be as small as possible. It was, therefore, cheaper to ensure reduction in other countries, than making those reductions at home. This does not seem to be the sole case in White Paper 13.

Still, the document retains the importance of the global approach by stating that “*the challenges posed by climate change are global, and can only be dealt with through global cooperation*” (Meld-St-13, 2020-2021, p. 13). This can be interpreted to mean that the two approaches, national vs international, are still both in existence and the document is showing an argumentation for both. This is more evident when the goals are introduced, where the Paris Agreement and the agreements with the EU are affecting which targets the Government are using for the mitigating policies presented in White Paper 13.

4.1.2 Dividing the targets

The overall goals are introduced in chapter one, where the nationally determined contribution (NDC) under the Paris Agreement is referred to first. This goal is a reduction of at least 50% and towards 55% by 2030 compared to 1990 levels, and it is also communicated that “*This is a crucial step on the path towards Norway’s target of being a low-emission society by 2050*” (Meld-St-13, 2020-2021, p. 11). This is not explained any further in this chapter. However, on the next page, it is stated that “*This white paper presents a plan for achieving the Government’s goal of reducing Norwegian non-ETS emissions by 45 % by 2030*” (Meld-St-13, 2020-2021, p. 12). It is clear from the document that this goal is connected to the

agreements Norway have with the EU on emissions reduction on non-ETS emissions which is a different agreement than the carbon market of ETS emissions, and a different target than the NDC. The emissions will be reduced by an emission budget with a declining emission ceiling for each year from 2021 – 2030. Norway’s final target in the agreement on climate action with the EU is a reduction of 40% compared to 2005 levels. The goal of 45% reductions by 2030 is then a goal of exceeding that agreement. Nevertheless, it is not clear whether this is to be done solely by domestic cuts or if it is to be done by the ESR and the percentage for Norway’s domestic reductions is in fact lower. It is mentioned further into the chapter that “*Climate initiatives in Norway are intended to contribute to domestic emission cuts, enhance CO₂ removals and promote technological advances that can be used both in Norway and internationally*” but it is never explicated what these different targets and goals mean for the efforts Norway is to implement or the actions that are necessary (Meld-St-13, 2020-2021, p. 13).

The only thing that is frequently mentioned is that Norway “*needs to go through a green transformation process that will affect every sector of society*” (Meld-St-13, 2020-2021, p. 15). This is followed by stating that the climate policies will be conducted to ensure that people’s lives will be improved and the business sector will be given room to grow. However, the different sectors, which are understood to mean the trisection of the emission sources (non-ETS, LULUCF, and ETS), each indicate the role the state can take in facilitating these two intentions.

For the ETS sector, the carbon market will determine the price of emissions and ensure that reductions are made where it is most cost-efficient. This a clear statement conveying what we can call “the old ways” of doing things, where there are no national targets and the whole arrangement is determined by cost-efficiency and flexible mechanisms. Nevertheless, the document gives the message that:

to present the Government’s climate policy as a whole, this white paper also includes an account of how ETS emissions can be reduced, and policy instruments for achieving this. Among other things, the central government will support and promote further technological developments in the ETS sector (Meld-St-13, 2020-2021, p. 12).

This contradicts the idea that the division between the three pillars can be viewed as separate issues within the climate policy this document is presenting. It is especially the wording of “as a whole” that is interesting here because it signals that all emissions are important for the overall climate policy for the Government even though it is difficult to understand whether it is to be a subject for intervention. It is clearly stated that support and promotion of technological developments will be made in the ETS sector, however, it is not clearly stated on what grounds.

As for the LULUCF sector, it is stated that:

the plan set out in this white paper shows how the Government intends to enhance removals and reduce emissions from forest and other land categories, and make use of renewable forest raw materials in bringing about a green shift in the economy (Meld-St-13, 2020-2021, p. 12).

The goal is to ensure that emissions from this sector do not exceed removals by 2030, which is the “no-debit” rule from the agreement with the EU.

It is interesting how the different targets for the different groupings are presented in various ways as well. For the non-ETS emissions, it is a clear percentage goal of a 45% reduction in emissions. For the ETS emissions it is vaguer and without anything specific except for the efforts on technological development, and the LULUCF sector is even vaguer with no mention of anything definite expect for the intentions to enhance removals and reduce emissions. This can once again point towards a separation of the issue, and a confirmation of the previous suspicions that differentiated policy instruments, tools and designs are needed based on the categorisation of emissions into these three sources. Even the fact that the chapter on non-ETS emissions has been discussed on 100 pages, while the chapter on LULUCF only has 21 pages and the ETS chapter has 20 pages gives the impression that the non-ETS sector is the main area of interest in this document. The inclusion of a visual representation of the main policy instruments for non-ETS emissions in the introductory chapter, meant to inform the readers of the most important parts of the issue, strengthens the belief that this sector has been given the most attention in this document as shown in Figure 5.

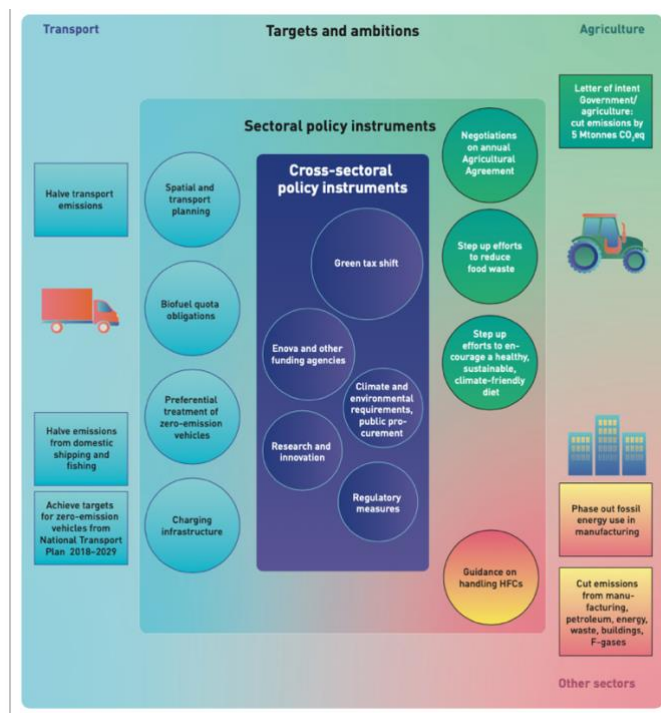


Figure 1.1 The main policy instruments for reducing non-ETS emissions in the climate action plan. Achieving the targets for zero-emission vehicles set out in the National Transport Plan 2018-2029 will require advances in technological maturity in various segments of the transport sector.

Figure 5 (Meld-St-13, 2020-2021, p. 23)

Figure 5 is not placed as a part of the summary for the following chapter three but simply as part of the subchapter on “1.3.3 *Reducing Norwegian emissions without causing a rise in global emissions*” which could mean that this sector is thought of as more important than the others (Meld-St-13, 2020-2021, p. 22). The document does then give the impression that this sector is the one to focus on. It is stated clearly that for the ETS sectors, the carbon market has the most power and it can be interpreted to mean that the only thing the Norwegian state can contribute here is the intention to “support and promote technological development”. The LULUCF sector, on the other hand, is vaguely mentioned in this first chapter and it gives the impression that it is not thought of as a sector that has much potential for political intervention. The importance of the sector as a part of the climate policy as a whole, equally to the ETS sector, is nevertheless evident.

The second introductory chapter is named “*Climate action by Norway in a changing world*” (Meld-St-13, 2020-2021, p. 29). The message is that the world is not what it used to be, it is changing, and the importance that Norway changes as well to ensure that its competitive position is maintained is one of the focus areas recognised by this document. The first part of the chapter describes the state of the world as one where the nature and environment are

suffering from the actions of humans that have grown larger at an alarming rate. It lays the ground for the argument that the world can no longer sustain us. It is stated that:

higher temperatures, more frequent and more intense weather extremes, and ecosystem degradation are jeopardising human survival and pose a threat to health, welfare and economic growth in the future (Meld-St-13, 2020-2021, pp. 29-30).

Here there tied are several risks to the continuation of an evolving warmer climate and the inaction of countries, communities and humans can lead to security challenges on several levels such as military, food, space, water, and other resources. The idea that this issue is something that craves action is made clear. It is not something that we can simply adapt to and have no control over. We, as a world, must make deliberate changes to make sure that the climate does not evolve into an even more dangerous state.

By viewing the name of this chapter, and its content, with the history of Norway's top-down policy design in mind, it can also be a message that Norway is changing. Norway must undergo a "...*transformation process*..." and this process "...*will be vital to the competitive position of the Norwegian economy*" (Meld-St-13, 2020-2021, p. 37). This confirms the ideas from Chapter One, where economic growth is one of the most important focus areas for Norway in the efforts to reach the climate goals in the years towards 2030. The specific targets are said to be achieved "*through national cuts in emissions and/or by using flexibility mechanisms*" (Meld-St-13, 2020-2021, p. 37). This "and/or" wording is especially interesting, sending the message that flexible mechanisms are looked at as a backup plan. This can be seen as a message that economic rationality and cost-efficiency instruments are not enough on their own. This will be discussed further below.

The aspects and practices made evident from the first part of the document give an idea that the climate issue is more complex than it may have been perceived before. The following sections will examine more closely the three aspects that are perceived as more influential in framing the climate issue and what types of expertise the document explicitly or implicitly mark as important for handling it.

4.2 Economic Practices, but with backup plans

The document clearly states that the main policy tools for Norway is still cross-sectoral instruments such as taxation of the GHGE and emissions trading (Meld-St-13, 2020-2021, pp. 14, 52). Taxation is mentioned as the way to incentivise behavioural change in most interest areas such as increased use of low- and zero-emission solutions and food security. It is also emphasised that this type of tool will ensure that emissions will be reduced where it is cheapest to do so, following the cost-efficiency principles closely. The plan is to increase the carbon tax gradually up to 2000 NOK per tonne CO₂eq in 2030 to create a “...*predictable framework*...” which is “...*vital for the business sector*...” (Meld-St-13, 2020-2021, p. 14). By taxing the bad, which is emissions, the businesses will have to pay more to continue conducting their activity as usual. If the taxation levels become higher than the cost of choosing a more climate-friendly option, then they will choose to invest in that solution to be able to avoid paying the tax. If Norway is to become a low-emission society, everyone has to reduce emissions and the document states the intentions of the state to facilitate this change.

When the document presents the will of the government in the case of raising taxes on GHGE between 2021 and 2030, it is stated that “*In recent years, the Government has increased tax rates and also worked systematically to widen the tax base, so that a larger share of emissions is taxed*” (Meld-St-13, 2020-2021, p. 65). Economic expertise is being realised, and the carbon tax functions as a tool to make people and businesses change and be part of the green transition through incentives. This leads to the suspicion that the taxes have not been equal, but there are efforts now to make them equal and more according to economic logic than before. This can be seen as a chain in the link of the argument from researchers that economic thinking may not be as dominant in how the climate policies have been executed as previously thought. By making it more costly to emit GHG, the green solutions will become more attractive. This plan is part of another argument presented in the document that “*it must pay to make green choices*” (Meld-St-13, 2020-2021, p. 14). Even this wording of the argument, “pay”, is saying that there needs to be a resource surplus-motive to choose more climate-friendly options.

The argument is extended further by stating that “*It is only possible to dispense with high-emission solutions if low-emission options are available*” and this is where the connection with financial support for the development and deployment of new technology is attached (Meld-St-13, 2020-2021, p. 14). It is said in such a way that emissions pricing is understood

to be the main instrument to be used, but that the necessity for solutions to be available so that the business sector conversion to a low- or zero-emission entity can occur, is of equal importance. The document also presents the possibilities for other policy instruments to be used, such as climate-related requirements in public procurement processes and making low- and zero-emission solutions a requirement for the purchasing power of the public sector. This could also incentivise the rest of the business sector to move in the same direction. This can be seen as an admission that given the time frame of the situation, economic rationality and cross-sectoral instruments are not enough.

The evidence for taxes not being enough is clearly stated when regulatory measures are presented as:

...a good supplement to general taxes in situations where for administrative or technical reasons it is not possible or desirable to impose taxes on emissions. Regulatory measures can also be an effective way of overcoming behavioural barriers that hinder the implementation of measures even if taxation makes them economically viable (Meld-St-13, 2020-2021, p. 67).

One can argue that White Paper 13 is expanding the issue, making it a collaborative problem where everyone needs to be involved to solve it. It has been said that economic rationality has won the debate on how the climate issue is discussed and talked about, but not necessarily how it is being dealt with in practice (Boasson & Lahn, 2017; Tellmann, 2012). This hypothesis is confirmed by the framing in White Paper 13.

One of the more specific areas where White Paper 13 creates this shift in thinking is in the non-ETS pillar. The transport sector is one of the most emissions-rich sectors in Norway and the document argues that by raising the taxation, the prices of fuel costs will rise, and it will then be more economically advantageous to reduce emissions either by choosing zero-emissions solutions or by walking. The Government is also incorporating the targets from the National Transport Plan 2018-2029 as a basis for policy instruments. One target is that “*new local buses are to be zero-emission vehicles or run on biogas from 2025*” which will be fulfilled by making it a general requirement in all public procurement processes from 2025 (Meld-St-13, 2020-2021, p. 74). Already here, the document presents a mix of policy instruments that will be needed to ensure that the transport sector will transition to a low- or

zero-emission sector. This is a very clear sign that economic principles cannot be the only solution to ensure the transformation of this sector. It is even stated that:

the Government's proposals for increases in climate-related taxes will not be enough on their own to promote the technology development and deployment needed to achieve Norway's ambition of halving emissions (Meld-St-13, 2020-2021, p. 79).

This is a clear statement that the transport sector is in need for a policy mix. Funding schemes is a solution that is mentioned to “*trigger the implementation of measures that would be difficult to realise through taxation, such as spatial planning for a climate-friendly society*” (Meld-St-13, 2020-2021, p. 80). This makes the mix of policy instruments larger, and for the transport sector it is becoming clearer that there is a need for a “package” of policy tools to ensure that the transition will happen.

It is stated in the first chapter:

where the Government proposes the introduction of specific requirements, these will generally be requirements to use low- or zero- emission technology. It will be up to the market to determine whether electrification, hydrogen, biogas or another technology is most appropriate. The goal is to reduce emissions, not to choose one technology in preference to another (Meld-St-13, 2020-2021, p. 13).

This statement from the first chapter encapsulates economic rationality and trust in the market perfectly. By saying that the market will determine which technology will be used is in line with the basic principles of economic thinking. However, the heavy focus on biofuels/biogas can point towards an intervention in the market forces and in the need for a solution that will slow down emissions from diesel and petrol cars while other technological solutions have time to mature. This line of argumentation is especially strengthened by the fact that there is an entire subchapter, “*3.4.3.2 Biofuel quota obligations*”, devoted to discussing the necessity and impacts of this particular focus (Meld-St-13, 2020-2021, p. 81). The argument of not having to cause society high unnecessary costs could be the reason for this line of argumentation and focus in the document. The same requirements will be made for other transportation measures, such as ferries and service vessels, from 2023 to 2025, and this type of transport is discussed in the same chapters and with the need for the same policy

“package”. The same focus on electricity and the expansion of the power grid to ensure that more and more electric options will be chosen is also disturbing the economic thinking of trusting the market forces to choose the best technology. The focus on electrification is seen most clearly in chapter 8 of the document, called “*renewable energy is making the green transition possible*” (Meld-St-13, 2020-2021, p. 217). The document shows the role the Norwegian state might be taking in choosing some solutions over others.

The document also presents a differentiation for how much the taxation instrument is to be utilised between the three pillars. The mentioning of taxes in the non-ETS sector is overwhelming, while for the LULUCF sector, it is only mentioned as something to consider regarding emissions from peat extraction. The ETS sector is presented as something already taken care of because that sector is part of the EU ETS and will not be subjected to anything more than what that agreement already contains. However, it is stated that the tax will not surpass 2000 NOK per tonne CO₂eq. This differentiation between the non-ETS and ETS sectors could be because of the limited amount of policy intervention that is intended for the ETS sector, while the non-ETS seems to have a bigger focus and has been given a higher priority.

4.2.1 Economic Modelling Practices

Another interesting aspect of the document is the many models and figures representing the different numbers mentioned several times throughout the document, for example, how much emissions each sector is responsible for and how much is to be cut by 2030 presented either as tonnes of CO₂-eq or percentages. The modelling used is a contested way to predict the future because they are economic models with a linear base, but the aspects necessary for the realisation of the future do not move linearly (Mahony & Hulme, 2016). Neither nature nor technological development are linear. As we can see from Figure 6 showing how the current projections and the estimated contributions all move in a linear way, the macroeconomic modelling is very much affecting how the issue is being perceived and thought about when making plans.

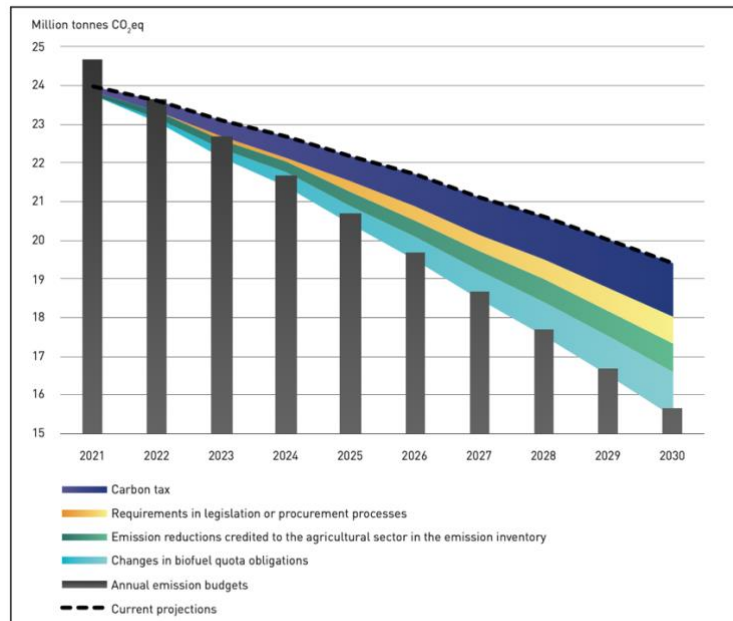


Figure 3.4 Closing the emissions gap: how the carbon tax, biofuel quota obligations and other policy instruments are expected to reduce emissions enough to reach Norway's 45 % target for non-ETS emissions (figures in million tonnes CO₂eq).

Source: Statistics Norway, Norwegian Environment Agency, Ministry of Finance, Ministry of Climate and Environment

Figure 6 (Meld-St-13, 2020-2021, p. 52)

Figure 6 is a visual representation of how many million tonnes CO₂-eq the carbon tax, biofuel quota obligations and “*other policy instruments are expected to reduce emissions enough to reach Norway’s 45% target for non-ETS emissions*” (Meld-St-13, 2020-2021, p. 52). As we can see, it is a linear projection which assumes a reality where things evolve in a linear and controlled way. This creates an understanding of the climate issue where the future is predictable, controllable, and knowable, where nothing unexpected can happen. This is coupled with explanations like “*they are also based on the assumption that the effect on emissions will increase steadily throughout the period 2021-2030*” (Meld-St-13, 2020-2021, p. 52). The words used here, *assumption* and *increase steadily*, signal that the macroeconomic linear thinking is affecting the way the issue is viewed, which could be problematic. However, there is a constant mention of high levels of uncertainty and the fact that technological development might go either slower or faster than projected and that this will influence the way the situation plays out:

This climate action plan provides a credible path making it likely that the 45 % target can be achieved without the need to use the flexibility mechanisms. However, the effects of the policy instruments it sets out are uncertain, and it is also uncertain when these effects will become apparent (Meld-St-13, 2020-2021, p. 146).

This contradiction is quite remarkable because it gives the impression that the flexible mechanisms, i.e., the quota sales available through the cooperation with the EU, are used as a pitfall to ensure that the translation into numeric and mathematical understandings of the issue can be salvaged if the development does not go as projected:

The Government will also if needed make use of flexibility mechanisms under the EU legislation to ensure that emissions are reduced sufficiently. Emission levels depend on many uncertain factors that may interact in unforeseen ways (Meld-St-13, 2020-2021, p. 58).

The document creates a situation where flexible mechanisms are a backup plan if the national actions are not as effective as intended. Because the tendencies shown through the macroeconomic models do not coincide with the actual progressions of the necessary policy instruments' realistic development paths, there is a mismatch in the way the visual representations and symbols in the document are used as additions to the textual element. It paints a picture that the development will progress steadily, but the texts give the impression that the projections are more along the lines of an educated guess and that the plans made from these models will have to be changed according to the future progress of the situation.

As we have seen, this document is communicating a hybrid solution where tax is considered the most important instrument, but at the same time relies heavily on other instruments such as regulatory measures, innovation, and technological development to ensure that the transition will happen. The document shows the need for more than the top-down policy design previously fought for. Cost efficiency and taxation is still the main approach and tool; however, the issue has changed some and the hybrid solutions are more visible and argued for in the government as shown through the practices in the White Paper.

4.3 Knowledge, Expertise, and Skills

Another interesting practice evident in the documents is the focus on knowledge production, knowledge sharing and the need for evolving skills in the business sector in the field of climate and the environment and innovation. It is a twofold focus: on the one hand, knowledge, expertise, and skills are viewed as a resource that needs development alongside

other types of resources, like technology and policy. On the other hand, it is used as an explanation, or an excuse, for why policy in some areas is not certain and lacks specificity.

The first message the document delivers about knowledge is that “*the transformation process will require people with knowledge and skills, and the Government is therefore focusing on education and research*” (Meld-St-13, 2020-2021, p. 14). This alone is not enough to give us any reason to believe something other than what is simply being said, which is that knowledge and skills will be important for the development of the new society we must create to tackle the challenges we are facing and will face, and that there will be a focus on knowledge production. However, in the first chapter, there is a separate subchapter called “*a green knowledge society*” which specifies to a certain point what this first quote might mean and how it will be a part of the upcoming chapters (Meld-St-13, 2020-2021, p. 20). Here the focus is on how the knowledge, expertise and skills will change in the coming years. This might cause some forms of current technologies and solutions to become outdated, and subsequently, the knowledge and skills that come with them. “*Rapid societal transformation will require people to be adaptable...*” and the focus is mainly on the fact that “*...knowledge institutions must encourage lifelong learning. People must be able to gain new skills so that they are not excluded when new jobs replace the old ones*” (Meld-St-13, 2020-2021, p. 21). This can be understood as a means of making the need for new knowledge on the thing that now matters, transitioning to a low-emissions society, explicated.

From there on the mentioning of knowledge starts to become twofold, as mentioned earlier. It is especially mentioned in connection with efforts in the agricultural sector: “*Technological advances and research-based, practical agronomical knowledge will be vital for success*” (Meld-St-13, 2020-2021, p. 112). It is especially interesting when it is mentioned in the context of the mitigation efforts, specifically carbon sequestration in soils and the use of catch crops and drainage of agricultural soils, that cannot be registered because the “*methods for calculating the effects of those measures on emissions have not yet been developed or because there is insufficient data*” (Meld-St-13, 2020-2021, p. 127). Here one can argue that the document is showing that the lack of knowledge, methods and skills can have an impact on how, according to the numbers used to measure how much a country is reducing emissions, Norway is perceived as worse than they are. That Norway is reducing more than can be conveyed through the current political technologies, and that “*a green knowledge society*” can be influential in showing Norway’s true colours. On the other hand, it points towards a linear

understanding of knowledge in the sense that if new knowledge is acquired it will inevitably mean that the difficulties in for example measuring, as mentioned specifically in the document, will be solved in the future. The same can be said for the lack of sufficient data and that one of the areas in need of new knowledge is the collection and management of important information from the agricultural sector. The document shows this type of thinking when presenting it as “*vital to maintain a focus on knowledge development, both to identify cost-effective measures for reducing greenhouse gas emissions from agriculture, and to identify their consequences for society*” (Meld-St-13, 2020-2021, p. 117). In this context, the high level of uncertainty is also mentioned as a problem, and there seems to be a connection between the high levels of uncertainty and the need for new knowledge.

In the statement on how important practical agronomical knowledge is for success, the sentence before is: “*climate change in Norway may offer new opportunities for production that farmers can exploit, but it will also result in greater uncertainty*” (Meld-St-13, 2020-2021, p. 112). The wording here expresses the hope that this forced situation climate change has put the world in will offer solutions that are better than the ones we have. This can be understood to mean sustainability in a broad sense, including both socially, economically, and environmentally. However, seen in context with the proposed solution or dependency, almost, to knowledge production signals more the belief that the challenges agriculture is faced with will be solved in the future. The same can be said for the transport sector, however, the need for new knowledge is not as explicit as in the agricultural sector. There is more talk of a “need” for further development, like in the heavy-duty vehicle segment:

The transport sector will account for a large proportion of Enova’s activities, including support from the Zero-emission Fund. This is because the sector is responsible for a large volume of emissions and technology development is needed in heavy-duty vehicle segments (Meld-St-13, 2020-2021, p. 69).

In the transport sector, the need for knowledge is more closely linked with the development of solutions, which can signal the need for a different type of expertise, but nevertheless a need for new knowledge and skills.

To continue the argument of how White Paper 13 is expanding the issue, making it a collaborative social issue, is the need for dietary changes. The need to follow the Directorate

of Health's dietary plan can cause emission reductions, however, the potential is very uncertain because it depends on how many people will replace excess amounts of red meat with fish and vegetarian options. However, this specific target used to reach the overall goal of emission reduction is interesting. The document states that one of the things the Government will do is:

carry out more frequent surveys of dietary habits in different population groups as part of efforts to promote a healthy, sustainable and climate-friendly diet, and to assess whether current policy is sufficient to achieve the aim of persuading the Norwegian population to follow dietary advice from the Directorate of Health (Meld-St-13, 2020-2021, p. 127).

Again, we see a need for more knowledge and a need for the population to be willing to make changes to how they choose to conduct their personal lives. What is also evident is the linear knowledge thinking once again, stating that if the population have more knowledge they will act in the "right" way.

The intent is clear; the entire society and the country's inhabitants must be an active part of the changes necessary for emissions reduction. However, the fact that these dietary changes will affect the agricultural sector concerning production is not mentioned much, except for the fact that it might lead to carbon leakage. If the demand for red meat for instance cannot be met by national production, it must be imported which can cause higher emissions in other countries. The need for new knowledge on this exact matter is not as clear cut as with the other quotes used earlier in this subchapter, however, it is evident in the context. This is because there is a frequent mention of uncertainty and the possible negative consequences connected to it. This is in addition to the way unknown aspects are mentioned with a small list of possible solutions, but no real answer is presented. New knowledge can then be interpreted to be the only solution that can help solve the difficult questions and problems facing the agricultural sector.

The way dependency on knowledge creation and technological development is present in the document can be a sign that what has been called the science-policy linear model in the relationship between science and policy is still in effect. According to this view, science and policy are seen as two distinct spheres, and science needs to be developed to inform policy for

action to take place. Much literature in STS has contested this way of thinking, arguing that it is not the case in practice (Jørgensen, 2022). It is interesting then why this seems to be affecting the presentation of the climate issue in White Paper 13. Nevertheless, it is difficult to understand exactly how much the document conveys the wish for knowledge production to escalate and the role it will play in the efforts discussed in the document. As previously stated in the earlier parts of this subchapter, there is a definite mention of it, however, it is dispersed and sector-specific. The main areas talked about in the chapter on non-ETS emissions are transport and agriculture, and there is a clear weight put on the need for more knowledge in the agricultural sector. This might signal that this is the sector with the most uncertainty, and that expertise on how agriculture and climate can benefit from each other is not yet developed to a desired level. The way knowledge is presented in the document could also be a sign that there is a need for different types of expertise in the two sectors and that the transport sector needs to rely more on engineering and technology than the agricultural sector.

4.4 Technological and Developmental Opportunities

The need for technological development and deployment is not only mentioned in the context of the transport sector. It is one of the practices in the document worth examining more closely. This is mentioned in every pillar, but especially in the non-ETS sector where it is stated that “*Norway is dependent on rapid technological advances and widespread use of new technologies to achieve its climate targets*” (Meld-St-13, 2020-2021, p. 68). This need is closely connected with the efforts to support and increase innovative efforts in society.

The first introduction to the importance of technological advances in the document is on page 12 where it is stated that “*Green growth is possible but requires a policy that enables the business sector to develop and deploy new technologies to replace yesterday’s fossil solutions*” (Meld-St-13, 2020-2021). Here it is clear that the fossil solutions we have today are no longer solutions, they are problems that need to be dealt with. The need to replace fossil technologies with zero- and low-emissions technologies is one of the main areas in the plan to cut emissions. The rationale for taxing emissions is even partly grounded in the zero- and low-emissions solutions that have and will enter the market. The argument stated in the document is that:

Pricing of emissions is particularly effective when zero- and low-emission solutions have reached the market or are nearing market introduction. Emission pricing makes

such solutions more attractive to consumers and businesses relative to solutions that result in higher emissions (Meld-St-13, 2020-2021, pp. 62-63).

The way the document links the two aspects together, “pricing” and “new technology”, can show that a part of the intended effect of the tax is that new green solutions will be pushed forward and ensure the green transition.

It is stated in the document that “*Climate initiatives in Norway are intended to contribute to domestic emission cuts, enhance CO2 removals and promote technological advances that can be used both in Norway and internationally*”. Keeping in mind the previous extracts from the document on the dependency on technology, the document creates a situation where Norway has to change (Meld-St-13, 2020-2021, p. 13). The dependency on, and vital need for, new technological solutions that will aid in the goal of reducing emissions is a part of the transition and transformation that must happen. This is explicated when the funding instruments, like the Klimasats grant scheme, are discussed in relation to the transport sector: “*Support for investments in ambitious technology pathways lays a foundation for making emission reductions in the time ahead, after 2030 as well, and thus contributes to the long-term transformation process*” (Meld-St-13, 2020-2021, p. 80). The need for new technology and new solutions is very much evident in this document. Previous research shows that Norway believed they did not need to go through a transition because they could buy emission reductions in other countries. There was no explicit need for every country to be climate-neutral until 2015. This is where Norway’s narrative and goals changed, and White Paper 13 shows that there has been a change in the priorities and how this crisis is viewed. Every country needs to make the green transition and start down a low-emissions development pathway, and the need for domestic action is clearly stated in this document.

One thing that is rather striking about the technology aspect is how innovation is mentioned less in this context than it is when the document discusses research. There is no doubt that research and innovation are a prerequisite for new technological development. However, innovation can be defined as new knowledge in production activities, the development of new products, and the use of new materials. The most important part of defining innovation is that it is used and deployed (Aasen & Amundsen, 2017). The fact that new technology is more closely connected with one of the most important aspects of what innovation means is what makes it striking that the document seems to equate it with knowledge and research more. The four aspects, knowledge, research, innovation, and new technology are dependent upon each

other and will be mutually dependent and realised by the effort put into each area. Without knowledge and research, innovation cannot happen, and without innovation, new technology cannot be developed and deployed. Nevertheless, all four areas which are important for innovative capabilities have an important place in the document which signals that innovation is vital for the green transition's success.

The foremost tool used to ensure the deployment of new green initiatives, technologies, and solutions is called Enova. Enova is an organisation helping businesses with late-phase technology development and early market introduction to ensure that climate-friendly projects that otherwise would be too expensive for businesses to invest in reach the market more quickly. The document states that a new four-year agreement has been made between the Government and Enova, where a clearer climate profile has been established and the funding instruments, like Enova, will have a vital role in the transition to a green society. Enova has two goals:

which are to contribute to: a) reductions in non-ETS greenhouse gas emissions in the period up to 2030 and b) technology development and innovation that will be instrumental in reducing emissions during Norway's transformation to a low-emission society by 2050. The agreement also specifies that Enova is expected to find good solutions that take into account the need for an effective energy system, since there are close links between the energy system and the emission reductions needed in the transition to a low-emission society (Meld-St-13, 2020-2021, p. 69).

Here we see that Enova has the responsibility for ensuring that the new knowledge, technological developments, and innovative efforts are turned into actual innovations. Funding instruments, and Enova, are the policy tools chosen to ensure that the transition will happen. The knowledge base for this is social sciences and engineering, and still, it is mixed with economic expertise. This is a clear hybrid solution.

At the same time, the framing is interpreted as a modification of the issue as well. The global approach of Norway as an oil nation is slowly starting to fade here when the focus on renewable energy is presented as a comparative advantage for Norway. Chapter 8 of White Paper 13 is called "*Renewable energy is making the green transition possible*", and one of the first things the document presents at the beginning of the chapter is that "*Enova has a role to play in finding good solutions that meet the need for an energy system that is effective during*

a period of major change” (Meld-St-13, 2020-2021, p. 217). Again, we see that the document presents Enova as the face of the innovative efforts in Norway and that a move away from oil and gas is important for the green transition. This modifies the approach Norway has had since the beginning where global efforts and the economy based on the petroleum sector no longer is one of the most important aspects when the Government are considering different interests. It can even seem like White Paper 13 presents a converging of the two approaches; Norway as an energy nation entails the potential for a climate-friendly approach on both fronts, globally and domestically. The document connects this with the economic aspects again when stating that it would “*be costly if the Norwegian economy is not adequately prepared for a situation where global climate targets are achieved*”, signalling the need for a change in the way the economy is constructed (Meld-St-13, 2020-2021, p. 223).

5.0 The Climate Issue in White Paper 13

This chapter will entail a discussion of the empirical findings from the previous chapter, and attempt to answer the research question posed in the introductory chapter of this thesis: *Does White Paper 13 modify the climate issue, and also modify which expertise becomes relevant for dealing with the issue?* I have chosen to discuss my findings in two sections. The first will be about how White Paper 13 as a political technology can show a modification of the climate issue. The second part will be about which types of expertise are made relevant by the document and how those function as a significant part of the negotiation of the climate issue as a public issue.

5.1 Framing and Issue Modifications in White Paper 13

Asdal (2015) has made it clear that documents have the capacity in of themselves to establish, modify and transform issues. Documents are a good way to follow this process in political issues and can help establish the relevant situation. I will now discuss in what way the practices in White Paper 13 are part of constructing the climate issue.

As Asdal and other researchers have shown, the climate issue has been framed as an international issue, where global action and international agreements have been seen as the best way to reduce emissions. The polluter-pays principle has had a strong position in climate policies where taxes and emissions trading have been the main instruments. The climate issue has been worked on to fit into the economic policy already established, and the need for the economic growth of Norway to not be caused detrimental effects from the climate goals has been a priority. Chapter 4 of this thesis has shown that this framing is evident in the latest White Paper 13 (2020-2021) in several ways. For example by the name of the first chapter in the document, “*A Plan to cut emissions, not economic growth*” (Meld-St-13, 2020-2021, p. 11), and the statement that “*the challenges posed by climate change are global, and can only be dealt with through global cooperation*” (Meld-St-13, 2020-2021, p. 13). In addition to the last chapter where the document states clearly that “*putting a price on emissions is consistent with the polluter-pays-principle*” (Meld-St-13, 2020-2021, p. 223). By also stating that “*cross-sectoral instruments such as taxation of greenhouse gas emissions and emissions trading are the main instruments of Norwegian climate policy*”, the document gives the impression that the economic interests are still the most important aspects of the climate policy (Meld-St-13, 2020-2021, p. 14). The framing of the issue in White Paper 13 encapsulates the economic perspectives and focus points that have been leading the policy

debate since the beginning. However, the context is different from what previous research shows to be the case. In Hermansen & Sundqvist's (2022) article, they point towards the growing hybridity of the climate issue in Norwegian politics and state that "*Norwegian mitigation policy post-Paris is more hybridised than ever*" (Hermansen & Sundqvist, 2022, p. 18). White Paper 13 seems to confirm Hermansen & Sundqvist's (2022) point, as it indicates a weakened position of the pure economic top-down policy design and instruments and the argumentation for implementing more bottom-up initiatives in addition to taxation and emissions trading.

The document opens the issue and invites a different framing where it is also a national-, sectoral-, and local issue, instead of the more ideal-typical global framing evident in the existing literature. This modification is done in a way to ensure that the previous global framing is not abandoned completely, but rather expanded; "*Climate change is a global problem, but emissions are caused by actions and processes at local level*" (Meld-St-13, 2020-2021, p. 13). The issue is expanded to include national action while keeping the framing of it as a global problem. The two approaches, national action and global cost-efficiency are presented collectively. Previous research shows that the focus has been on handling the climate issue with a global approach ruled by cost-efficiency and reductions where it was cheapest to do so. The national aspect of that approach was perhaps more hidden than what this extract from the document now states clearly. That the climate issue was a national issue, however not one that required domestic action and a transformation of the Norwegian society where new developments had to replace the old ones. The document now presents an issue where local-level actions and processes are the cause of the global problem of climate change.

The existing literature presents a framing of the climate issue as one where the greenhouse gas emissions (GHGE) reduction had to happen globally, and if emissions were reduced it did not matter where they took place. The national aspect of the previous framing was more focused on how Norway could be a facilitator for reductions internationally and not an active national contributor on domestic and local levels. The practices in White Paper 13 encapsulate more the need for national and local actions, and how it is an important part of the issue. The argument behind the Paris Agreement, that every country needs to act inside their own boundaries to ensure a climate-neutral society, is a bigger part of the situation the document is portraying. This coincides with how the hybridity of policy instruments and the much more visible tension between flexible mechanisms or not is evident in this document. As stated in

the history section of this thesis, the hybridisation of climate policies has been more prominent since 2005 but has mostly been won by the top-down/cost-efficiency approach. However, the need for a hybrid policy mix has been picked up more and more as the years have gone by (Hermansen & Sundqvist, 2022). This is something evident in White Paper 13 (2020-2021) from the introduction of the document itself, as well as how the different pillars have been discussed throughout the document. There seems to be a hybridisation of the two approaches happening in the document.

Previous research shows how the climate issue was portrayed as an economic issue, a resource issue where the Ministry of Finance had to be the main ministry facilitating action that was in line with the “common good”. An issue specific to mostly economic rationality and climate science. One can argue that it was framed as a non-issue, exclusive for certain expert groups to decide how best to handle it (Asdal, 2015). The framing of the issue is now that it is a transformational issue. The need for changes and transformation in every part of the country from industry to personal everyday behaviour, opens the issue for a variety of fields. How more behavioural aspects, especially connected to the dietary changes needed, and public procurement processes intended to provide more climate-friendly options for people are more evident in the document. These practices renegotiate the problem, open it up and modify it as a social and political issue. This is especially evident when the documents state that “*rapid societal transformation will require people to be adaptable*” (Meld-St-13, 2020-2021, p. 21) and “*a clear, predictable framework is vital for the business sector*” (Meld-St-13, 2020-2021, p. 14). These extracts show how the attention on domestic action is given a more pressing focus in the framing of the issue in White Paper 13. Before 2008 national action had not been specified or given any actual focus, only mentioned as far as previous research can tell (Asdal, 2014; Cetkovic & Skjærseth, 2019; Hermansen & Sundqvist, 2022; Hovden & Lindseth, 2004). Nevertheless, it is not made clear where the reduction is to take place, nationally or globally. It is visible, though, that there is a larger focus on domestic and local action. Especially by the way the document states in various ways throughout the White Paper that Norway needs to undergo a transformation process. The need for change in Norway is communicated, which can mean a more national action approach than previously. Again, a sign that the climate policies are more hybridised.

Even though the hybridisation described above is shown more clearly in this document, it is not new. There have been discussions since the 1980s on whether Norway was to focus on

national action or international agreements. This White Paper can be just another wave in the controversy where the national action aspect has been fought for by those who wrote it. Nevertheless, the tendencies evident in White Paper 13 can strengthen what other researchers like Tellmann (2012) and Hermansen & Sundqvist (2022) have argued for. That a hybrid solution between the two approaches has been more and more evident in Norwegian mitigation policies over the last few years, and this White Paper signals a change in how the climate is framed within the state.

Even though the national approach can be seen more clearly in how the instruments and tools are intended to ensure Norway's transformation to a low-emission society, some aspects are not explicitly defined. The approaches to handling the climate issue, as seen from previous research, have been the national approach or the global approach. Some have argued that since the Paris Agreement, there has been a transition in the global approach to now entail a European approach instead (Christensen, 2018). The way the EU ETS and the agreement on non-ETS through the ESR are communicated in the document gives the impression that national reductions are intended to be the result of participation. However, this might not be the case. The ESR is the tool used to reduce the impact of those sectors not covered by the EU ETS, and the reductions are shared across all participants so that the overall reduction of 40% by 2030 compared to 2005 for the EU as a whole is reached. The national targets are divided by measuring the country's wealth by GDP per capita so that higher-income countries get a more ambitious target than lower-income countries (European-Commission, n.d.-a). These details of the ESR agreement are not communicated in the document, and it creates uncertainty about how much the actual domestic reductions percentage is going to be. The only thing mentioned specifically is the overall goals, and it is not made explicit what is to be done domestically and what is to be done on the EU level. The European cost-efficiency approach might be a third approach.

The existing literature shows a climate issue framed as an economic issue focused on the economic welfare of Norway. An approach where international agreements had to focus on cost-efficiency and where reductions had to happen on an overall global level and not necessarily in every country. What White Paper 13 focuses on is the need to create better solutions to ensure that the issue of emissions is eliminated in the end. The fact that everyone must become climate-neutral is causing the focus to shift to transformation, innovation, and an overall change in how things are being done. We must think, act, use, and behave in a new

way. This is framed in White Paper 13 as an opportunity and not a barrier, meaning that the climate issue is presented as a way to create a “*better society together*” (Meld-St-13, 2020-2021, p. 15). The way regulatory measures are stated to be the solution where taxes cannot be implemented or will not have the desired effects despite their economic viability is a clear sign that the climate issue is viewed as more important than following pure approaches. The importance can be interpreted to lie in creating a society that is “better” and ensuring that the green transition and transformation will be carried out.

By framing the issue as an opportunity and something that can have positive effects on the health of the population, the document also invites a framing of the issue as a target for governmental concern. The need for the state to take action to ensure that the changes necessary to handle the climate issue are being done is evident in White Paper 13. The need to go through a green transformation process and the importance of a government that can provide a framework encouraging people to make climate-friendly choices is at the base of how the issue is framed in White Paper 13. People need to change their behaviour so that emissions are reduced, and the state must facilitate the possibility of having a variety of choices that are emission-free. One way to ensure this is through increased knowledge in the population and a menu of green choices to choose between. This is the rationale for the frequent implementation and deployment of new technology, and consequently the focus on innovation, funding schemes and research.

One of the ways this is evident is how emissions are viewed. Previously, emissions were not talked about in specific terms. Cost-effective, international initiatives were the way to solve the problem of reducing them. What the document does is divide the issue into sector-specific categories where emissions are no longer just one thing. Emissions are now framed as either non-emissions trading scheme (non-ETS) emissions, land use, land change and forestry (LULUCF) emissions, or emissions trading scheme (ETS) emissions each entailing a different set of policy tools, instruments, and initiatives to be handled with. Categorising the emissions in this way is a way to problematise the issue, and even modify it into three separate issues within the main issue which is to become climate neutral by 2050. As stated in Chapter 4: the visual representations and the way the document divides the emissions into different sources via chapters can be seen as a clear bottom-up way of thinking about the climate issue. Bottom-up initiatives involve sectoral division of emission sources and implementing differentiated policy instruments to meet a target (Hermansen & Sundqvist, 2022). The way

the different pillars are discussed and the different practices that are used to show how the different life worlds are enacted in the different pillars give a clear sign that they are being viewed differently. They are all part of the Norwegian climate policy “as a whole”, however, they need to be treated differently. This is a clear message that the overall framing of the issue has changed, and this coincides well with the argumentation of Hermansen & Sundqvist (2022).

To continue the argument of how the different pillars are enacted in White Paper 13, the document gives the impression that non-ETS emission is presented as more politically important than the other two pillars. Given the share space chapter three of the White Paper has been given, in addition to how the other chapters continue to mention this emission pillar, the document puts more attention on the non-ETS emissions. Many of the aspects introduced in chapter four of this thesis discuss the attention the document has given to what is called “other policy instruments” referring specifically to regulatory measures, innovation, public procurement, and funding instruments which are mostly mentioned in chapter three of the document. These entail attention to a more knowledge-, technologically-, and policy package-oriented climate policy for handling the goals for 2030. The two other pillars are handled with less specific suggestions to other policy instruments available as solutions to the emissions problem in those sectors. The differentiation in how the different pillars are handled could be a way to avoid overflows and conflict.

One of the ways the more broad attention in the non-ETS pillar is evident is in the way financial support for the development and deployment of new technology is argued for; “*It is only possible to dispense with high-emission solutions if low-emission options are available*” (Meld-St-13, 2020-2021, p. 14). This is stated in a way where action to ensure the creation of technology compatible with the green transformation process is necessary for the green transition to happen. This responsibility is the state’s responsibility, there is a need to facilitate this action. The need to ensure that the new technology is implemented, deployed, and used is also the state’s responsibility. The need for low- and zero-emission technology to become a requirement in public procurement processes is also a policy instrument that the document makes an important part of the green transition, as stated in Chapter 4. The transport sector is one of the areas where the hybridity of the policy design is most evident, as the example with local buses from Chapter 4 illustrates.

In this way, the document opens the issue up to all sectors in Norway and makes them an active part of tackling the climate issue, however; it creates more apparent boundaries between the emission sources. The document gives more attention to the non-ETS pillar and creates a climate issue that can be divided into areas where political tools have more effect in some areas and not as much in others. Nevertheless, some tools have a clear focus across the different pillars. The technology and innovation focus is seen across the three pillars the document has separated the emissions in. This focus can be seen as one of the ways where the climate policies are coherent. Especially when the document states: “*Climate initiatives in Norway are intended to contribute to domestic emission cuts, enhance CO2 removals and promote technological advances that can be used both in Norway and internationally*” (Meld-St-13, 2020-2021, p. 13). Norway is a part of Horizon Europe, the EU’s research and development funding scheme, whose main task is the technological development of climate-neutral technologies (European-Commission, n.d.-c). This could very well mean that the Government intend to stay on with their engagement in this type of collaborative “green innovations” efforts and not have any specific policy instruments beyond those already in place connected to the participation in the EU ETS. At the same time taking advantage of that collaboration to ensure technological development in the other groups as well. Green innovation can be defined as “*developing new knowledge implemented in a new product, process, or service that generates profits, while simultaneously ensuring that the overall climate impact is reduced in one or more phases of the product/process/service’s life span*” (Arnekleiv & Larssæther, 2004, my own translation).

The framing evident from the trisection of the emission issue shows how the sectors are different, requiring dissimilar solutions and efforts, and consequently what type of expertise is necessary in each group. This is a breach of the dominion of economic thinking of the issue, even though it is still very much present. The fact that “*it must pay to make green choices*” is mentioned numerous times, coupled with the argumentation that acting now is cost-efficient, showing that the different interests have been combined. The trisection of the different emission sources can be a way to curb the conflict between the two approaches, national vs global, where the non-ETS emission is more influenced by the national approach and bottom-up thinking and the ETS emissions are more influenced by the global approach and top-down thinking. Nevertheless, the trisection can be seen as a form of hybrid management where economic logic has been mixed with transformation and innovation.

Even though we can see the tendency for a broader approach to the climate issue, the focus on economic rationality and cost-efficiency is still very much present. This is because cost-efficiency is stated as the foremost principle for mitigating policies, and the understanding of why other policy instruments are mentioned can all be traced back to the fact that it will cost more if action is not done now. By saying that there is a need for more than taxation and differentiated initiatives, the document creates a need for a more bottom-up policy design. However, the need for them can be understood as a way to act cost-efficiently. In the case of public procurement of local buses, the need for a change to low- and zero-emission transport is to reduce emissions from that sector. As one of the most emission-rich sectors, it is more cost-efficient to ensure reductions there first. The way this sector is proposed and handled in the document shows a mix between top-down and bottom-up policy design, which is a hybrid.

The need for an overall change in and of society is also a part of how the document shows a modification of Norway's narrative in the climate issue. The need for renewable energy and a move away from oil and gas is part of modifying the issue. The need for transformation is causing the need to create a comparative advantage in other places than the petroleum sector. This is where the narrative, of Norway as an energy provider, becomes evident and modifies the issue of economic risk that has been closely linked to the way climate policies have been conducted in the past. It is still evident in the way economic risk is now presented in connection with the dangers of high costs if Norway does not prepare the economy for a low- and zero-emission society. This can also be interpreted to mean that a hybrid has become the new narrative, influencing the hybridity of how the issue is handled as well. The way economic instruments are communicated as the most important, but the practices evident in the document show how more and more bottom-up initiatives are introduced and discussed points towards this not being the case entirely. The cooperation and hybrid management of the different interests, both top-down and bottom-up designs, signals that purification is further away from how the climate policies are intended to work than before.

5.2 Expertise and the Relevance of negotiation in public issues

Studying expertise in issues is a way to understand what is relevant, whom it is relevant for and why. What boundaries does the issue have and what type of knowledge is needed to deal with the issue (Hermansen & Sundqvist, 2022; Wynne, 2003)? Expertise is a part of the negotiation on issues and investigating what type of expertise White Paper 13 makes relevant

by the issue definition will enhance the understanding of the salience, validity, and authority the framing of the climate issue creates.

Previous research has claimed that the Norwegian climate policies have focused primarily on taxation and emissions trading, based on the polluter-pays principle and cost-efficiency. The relevance for economic expertise, thinking, and rationale are very much relevant for these types of policy instruments. Asdal has said that the climate issue became defined as an economic issue (Asdal, 2011). Much of the debate about how the climate issue was framed in the beginning and modified as it grew more and more important has been on the premise of involvement from the Ministry of Finance, where economists have a strong role. Neo-classical economics have been very influential in climate mitigation policy (Hermansen & Sundqvist, 2022). It can then be reasonable to assume that taxation, emissions trading, and flexible mechanisms are policy instruments realised by economic expertise. When White Paper 13 opens the issue to include the involvement of more policy instruments, making the issue broader in perspective, it can also be reasonable to assume that the “other policy instruments” are put in action by other types of expertise. However, this is not something discussed in the document explicitly. In Chapter 4, the examination of what practices are evident in White Paper 13 has been about what we can explicitly see in the document that can say something about what type of climate issue is evident. The solutions are many and the practices point towards a more hybrid package mix of policy instruments, where economic expertise only can work as a premise supplier and not the boundary for the exact execution of action. The inclusion of other types of expertise as facilitators for the other policy instruments will then be what seems to be the reasonable area or field of knowledge that these policies can be prepared from. For example, jurisprudence as a facilitator for the regulatory measures mentioned as a necessity for ensuring the green transition.

The fact that economic thinking still functions as a premise supplier is still evident in the document. However, the previously pure framing of the climate issue as a risk issue and an issue only relevant to the economy is not evident. The need for a rapid transition is very much advocated for in White Paper 13, and the realisation that the economic initiatives, tools, and instruments need the addition of others is clearly visible. The need for engineering expertise seems to be especially relevant with the constant reminder that technological development is necessary, and that low- and zero-emission solutions are vital for success in the transport and agricultural sector makes this explicit. The need for expertise on how laws can be formed to

prohibit certain types of solutions and practices that are deemed especially harmful to the goal of emission reductions might be one of the knowledge types needed with the mentioning of how public procurement processes are to be used to a greater extent. At the same time, analytical expertise in the social sciences to better figure out how behavioural change can occur can also be an area of expertise made relevant by this type of policy instrument. At the same time, economic expertise is being realised because the calculating methods need to be more accurate and include more than what is possible now.

The different areas of expertise that seem to be invited as part of the various instruments utilised to handle the climate issue are unique in their methods and ways of thinking. They have solutions and methods that they deem the best for tackling the climate issue. What seems to be the case in White Paper 13 is the extension and inclusion of more areas of expertise, like the ones explicated above, and not just the use of economic expertise. This brings us back to the argument that economic rationality has won the debate on how the climate issue is being discussed, but not necessarily how it is being dealt with in practice. White Paper 13 might show how other types of expertise are being included in the discussion as well as the practical solutions for the climate issue in Norwegian mitigation politics. There is, however, not much mentioning of how they are to function together in the document. The different instruments and needs are discussed as different parts of solutions. Hermansen & Sundqvist (2022) state in their article that there is a need for more deliberate hybrid forums where the different approaches can be discussed. The focus on innovation can be interpreted to invite such hybrid management of the issue, as well as being a hybrid forum intended to place the different fields in a more cooperative “room”. A prerequisite for innovation is to challenge the known and assemble different perspectives to form inter-functional and interdisciplinary solutions as a way to facilitate this challenge (Kanter, 1988). A clearer hybrid climate policy might be what White Paper 13 is showing. One where a multitude of expertise from every field is included in the knowledge production of how to best facilitate a green transition for Norway.

6.0 Conclusion

White Paper 13 is an official document that presents the climate issue and how the Government in Norway intends to deal with it. The climate issue presented in the document points towards a modification of the climate issue from what previous literature has shown of previous framings. The hybrid management of the different interests and solutions is evident in the different fields of knowledge and expertise that are made part of the issue by the specific policy instruments discussed. The climate issue is opened and viewed more as a developmental and transformative opportunity than before, and the bottom-up initiatives are a large part of how the need for a green transition is to happen. Nevertheless, it is not as clear-cut. Economic rationality and economic thinking are still influential in how the climate issue is framed in the document, and the need for a true hybrid forum as pointed out by Hermansen & Sundqvist (2022) is not something White Paper 13 is presenting. The climate issue in White Paper 13 is framed in a way where much of the issue's complexities are more visible, and the need for other types of expertise in the debate and negotiation of the issue is clear. The issue has been opened to include more engineering, social sciences, law, and agricultural expertise. The need for everyone, across sectors and fields, to act towards ensuring that Norway can reach the goal of becoming climate-neutral by 2050 is clearly influencing the way the climate issue is framed in the document. The different approaches are evident in the document, pointing to a hybrid management of the climate issue.

Further research is needed on the topic to fully understand how Norway is going to handle the climate issue. White Paper 13 was not approved in the Storting and finding out why that was the case and where the disagreements lay would be an interesting addition to the literature. Norway is an interesting case because of the two differing approaches that have been competing for attention inside the government, and to see if White Paper 13 is in fact only a wave for the national approach would be of significance. The battle between the two approaches, national action or global agreements, has been influential in Norwegian climate policies since the beginning. They have both had their waves of attention. To examine more closely if this White Paper is signalling a permanent change or if it is only another surge for the national approach could be crucial for the Norwegian position in the efforts to become climate neutral.

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