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# Entering a Norwegian Battery Paradigm: Exploring policy entrepreneurship

*To what extent do policy entrepreneurship theories explain the emergence of Norway's battery strategy?*

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*Abstract*

This study explores the application of policy entrepreneurship theories to the policy process regarding the Norwegian battery strategy, a strategic policy document published by the Ministry of Trade and Fisheries in 2022. By leveraging method triangulation, mainly semi-structured interviews, process-tracing, and document analysis, it examines the role and influence of policy entrepreneurs in shaping the strategy. Through establishing a comprehensive theoretical framework consisting of multiple theoretical stances, this thesis aims to explore whether policy entrepreneurship was the cause of the emergence of Norway´s battery strategy. The findings reveal that entrepreneurship was a significant factor in the development of the battery strategy. However, the study found various levels of commitment among entrepreneurs, indicating that it is not the sole driving force behind the policy document. Furthermore, a complex interplay between different forms of entrepreneurship, strategic and institutional entrepreneurship, also emerged, contributing to the policy´s creation.

Additionally, the study finds that the theoretical framework and arguments used to analyze policy entrepreneurship need further development. Given these findings, the study emphasizes the need for a comprehensive, adaptive framework to scrutinize the emergence of the impact of policy entrepreneurs in climate policy development. Further research is proposed to elucidate the role of entrepreneurial mechanisms within the broader scope of Norway´s climate policy formulation.

## *Foreword*

When I embarked on this academic journey, little did I know the immense challenges and profound insights ahead. The process has been a marathon of sorts, a roller coaster filled with high peaks of euphoria and deep thoughts of despair. And now, against all odds and my self-proclaimed lack of scholarly talents, here I am, on the other side, with a Master´s thesis about a subject that´s as electrifying as it gets (pun intended).

This accomplishment is not a solitary one. It is the fruit borne out of the collective support of many people who have stood by me, bolstered me, and guided me. I want to extend my heartfelt thanks to Innovation Norway, you have not only taught me about batteries, but you lit the fuse for this entire endeavor. Without you, this work would simply not exist.

I extend my deepest thanks to my family, who have endured countless venting sessions over the phone about the highs and lows of this journey. A special note of gratitude to my fellow students: your support has been invaluable. Johanne, my partner-in-crime at 236, your insights and encouragement have been truly inspirational. And to Linn, my best friend and grammatical guru, thank you for refining my words and smoothing out the rough edges of my English.

And then there´s Elin Lerum Boasson, the lighthouse keeper in my stormy sea of academic doubts. Your patience, especially given my usual lack of enthusiasm for theory, has been nothing short of saintly. The irony isn´t lost on me: here I am, having written a thesis aimed at testing theories. Trust me, without your guidance, this was not a destination I would´ve found on my own.

Lastly, thank you to the interviewees who participated in this study. Without you, this thesis would not exist.

So, dear reader, strap yourself in. You´re about to embark on a journey through the twists and turns of developing a Norwegian battery strategy. Are you ready for the ride?

Amalie Skaiå Larsen
22.05.2023

# 1.0 Introduction

As we stand in the middle of a sweeping transition in global energy production and consumption, the intersection of technology, industry, and policy has never been more important. The urgent need to combat climate change and achieve sustainable development goals has compelled the world to shift away from fossil fuels. In this energy revolution, electrification has emerged as a central component, inevitably thrusting the battery industry into the limelight. Batteries have become integral in electrical vehicles (EVs), cell phones, computers, and daily devices and new technologies like Energy Storage Systems (ESS). With new technologies constantly emerging, the battery industry is evolving rapidly.

The focus on batteries is not solely rooted in technological innovation but is equally a product of comprehensive climate policies. In Europe, the commitment to becoming carbon neutral has been given legislative form in the European Union´s (EU) Green Deal and the Battery Regulation. These policies mark Europe´s determined stance in the global battery race, aimed at addressing both economic and environmental concerns. However, how these transformations impact different nations, particularly Norway, which is not a member of the EU, remains a complex question.

With its long-standing dependence on the oil and gas industry – dubbed as the "black gold" – Norway finds itself at a significant crossroads. The industry has contributed approximately 18,000 billion NOK to the Norwegian government (Norsk Petroleum 2022). However, as Europe strives for carbon neutrality, Norway must transform its industrial base. A 2021 report by NHO, LO, and 18 partners highlighted the potential for the battery industry to become Norway´s next big industrial adventure, capable of creating up to 30,000 jobs and generating a potential turnover of 90 billion NOK by 2030 (NHO, 2021). The booming demand for Lithium-Ion batteries[1], growing from 0,5 Gigawatt hours (GWh) in 2010 to 526 GWh in 2020 (Roper, 2020; Bullard, 2020), corroborates this potential. To harness this opportunity, the Norwegian government released the Norwegian Battery Strategy in June 2022, setting out the country´s ambition to establish a sustainable, green battery value chain (Ministry of Trade and Fisheries, 2022).

[1] Lithium-Ion batteries is a type of rechargeable batteries.

This transition from oil and gas to batteries is not simply an industrial transformation but is deeply intertwined with climate policies. As attitudes towards the oil and gas industry have shifted, there has been an increased focus on greener industries. While this change aligns with the global need to reduce carbon emissions, it requires a rapid and unprecedented adjustment.

The onset of this industrial era raises critical questions about policymaking, governmental support, and the role of different actors in shaping the future of the battery industry. Policies can have far-reaching effects in establishing and developing an industry, especially a green one, whose success is intrinsically tied to climate policies. The role of policy entrepreneurs, who invest "their resources – time, energy, reputation, and sometimes money – in the hope of a future return" (Kingdon, 1984; Kingdon, 2011, p. 122; Mintrom, 2019), is crucial in effecting policy change. Policymaking involves a wide array of actors, including non-governmental bodies, private corporations, organizations, and the public policy apparatus (Colebatch & Hoppe, 2018). The dynamic and complexity of these interactions make for an interesting and important area of study.

This thesis aims to delve into this fascinating interplay of industry, policymaking, and climate change by examining the policy process related to the Norwegian battery strategy. The current literature on Norway´s battery policy is limited, primarily because of the industry´s novelty in the European context and the recent rollout of the Norwegian battery strategy. However, this research will explore these areas in depth, focusing on the actors involved in the Norwegian battery industry and their roles in policymaking. These actors represent a range of sectors, including the government, private corporations, the public policy apparatus, and interest organizations.

The study focuses on the actors currently involved in the Norwegian battery industry, who have also been involved in the policymaking process in addition to other actors that have participated in the policy process. As the government clearly indicates a preference for specific industrial fields, the policy process itself is a rapid one, lasting for only about seven months. This presents an intriguing case of Norwegian policymaking, with the involvement of external actors from the industry and interest organizations in policy processes.

## 1.1 Research question

The formulation of a national Norwegian battery strategy stands as a complex, multi-dimensional process characterized by interactions among various stakeholders. Utilizing policy entrepreneurship theories, this thesis seeks to explore these interactions and dynamics, with particular emphasis on the role of external actors in shaping the policy outcome – the Norwegian battery strategy.

The central research question driving this investigation is: *To what extent do policy entrepreneurship theories explain the emergence of the Norwegian battery strategy?* This question is framed around the recognition that policy entrepreneurs play a significant role in policy-making processes, employing their resources, strategies, and networks to shape policy outcomes. It acknowledges the importance of understanding these dynamics within the context of Norway´s battery policy.

To address this question, the thesis employs a methodological approach encompassing process tracing, document analysis, and semi-structured interviews. This approach facilitates a comprehensive examination of the policy process, the actors involved, their actions, and their influence on the policy outcome.

An essential aspect of this investigation is to understand who has been more active than others in influencing the policy process, and who initiated the battery policy work. The analysis also seeks to uncover key events and happenings that have shaped the policy process. All these elements are analyzed through a theoretical framework that draws on theories by Mintrom (2019), Boasson (2015), and Boasson & Wettestad (2014).

The subsequent chapters of this thesis will present an overview of both the policy process timeline and the actors involved. Preliminary findings suggest the presence and influence of policy entrepreneurs in developing the Norwegian battery strategy. However, this study aims to go beyond establishing their presence, delving into the nuances of their commitment levels, and the strategies they employed to influence the policy process. Ultimately, the goal is to establish the extent to which policy entrepreneurship theories can shed light on the development of Norway´s battery strategy, thereby contributing to the broader understanding

of policy entrepreneurship and its application to green industry and climate policies.

## 1.2 Exploring policy and policy entrepreneurship: Literature and operationalization of terms

This thesis applies policy entrepreneurship theories to explain the research question. Considering this, it is essential to explore the existing literature on these fields and what definitions of these terms exist. *Policy* and *policy entrepreneurship* are key terms in this thesis; therefore, one must explore what these are defined as. This chapter will provide an extensive understanding of the pre-existing literature in the area, as well as attempt to define the terms *policy* and *policy entrepreneurship*. This chapter is presented in two-fold: First, this thesis will review the literature on policy. Second, this thesis presents literature on policy entrepreneurship. At the end of each of the sub-chapters, there will be a clarification on the definitions and how this study will use these terms.

### *Policy as a Concept: An Examination of Past Literature and Defining its Role in This Thesis*

At the heart of this master´s thesis is the concept of ´policy´. While the term may be commonplace, it is inherent ubiquity often obscures its precise meaning, necessitating a more in-depth analysis and clarification. An initial point of clarification is the distinction between policy and politics. Politics refers to the actions taken by a government aimed at influencing the governance of a nation. Policy, on the other hand, denotes a plan, action, or series of agreed-upon rules by a political entity, such as a government or a political group (Cambridge Dictionary, 2023). This distinction, albeit straightforward, is crucial in understanding the different roles each term plays.

A seminal work that provides valuable insights into the concept of policy is the Handbook of Policy, Process, and Governing, authored by Colebatch and Hoppe (2018). Within it, Page (2018) offers a deep dive into the nature of policy in a chapter intriguingly titled “Whatever governments choose to do or not to do”, a phrase borrowed from Dye´s (1972) definition of policy. Page (2018) begins with a somewhat provocative assertion, arguing that policy development is not solely the purview of governments. He suggests that many public policies are the product not of governmental bodies, but of non-governmental entities such as private corporations, volunteer groups, and third-sector organizations (Page, 2018, p. 16). Further, he

proposes that the scope of a government´s "choice" in its actions is substantially limited by the existing legal and regulatory framework (p. 16).

Weible (2014) provides another perspective on the term, defining public policy as involving the decisions – both action and inaction – of a government or equivalent authority, including statues, laws, regulations, executive decisions, and governmental programs (Weible, 2014, pp. 4-5; Colebatch & Hoppe, 2018, p. 4). Despite its comprehensiveness, this definition falls short of offering a clear delineation of what constitutes policy and what does not. To address this ambiguity, Colebatch & Hoppe (2018) propose viewing ´policy´ as a ´concept in use´ (p. 4). This perspective aids practitioners and observers in identifying and categorizing phenomena based on their key characteristics (Colebatch & Hoppe, 2018, p. 4).

Considering these scholarly viewpoints, this thesis adopts a similar stance, treating ´policy´ as a concept in use. It acknowledges that policymaking is a process that involves not only governments but also non-governmental entities. By doing so, it seeks to provide a holistic, nuanced understanding of policy, its origins, and its impacts, building on the rich body of literature while also presenting a fresh perspective.

### *Policy Entrepreneurship and the Role of Policy Entrepreneurs*

John Kingdon (1984) was the first to introduce the concept of policy entrepreneurship, defining policy entrepreneurs as individuals who could operate:

> …in or out of government, in elected or appointed positions, in interest groups or research organizations. However, their defining characteristics, much as in the case of a business entrepreneur, is their willingness to invest their resources - time, energy, reputation, and sometimes money- in the hope of a future return (Kingdon, 1984, p. 122).

This definition, despite its foundational value, has been critiqued as overly broad and indistinct, leading many scholars to call for a more precise articulation (Green, 2017; Mintrom & Norman, 2009).

Boasson & Huitema (2017) further extended the concept, examining it in the context of climate governance entrepreneurship. They posited that simply fulfilling one´s professional role does not qualify an individual as an entrepreneur. They elaborated on the concept of entrepreneurship, segmenting it into two categories: (1) actions aimed at enhancing governance influence by altering the existing distribution of authority and information, and (2) actions aimed at modifying or disseminating norms and cognitive frameworks, worldviews or institutional logics (Boasson & Huitema, 2017, p. 1345), They urged for more rigorous collaborative, and systematic comparative research to further investigate these dimensions of entrepreneurship (Boasson & Huitema, 2017, pp. 1357-1358). Here, the important distinction from Kingdon (1984) is the difference between *entrepreneurs* and *entrepreneurship*.

Meanwhile, Mintrom & Luetjens (2017) adhered closely to Kingdon´s definition of policy entrepreneurs, suggesting that these individuals seize opportunities offered by broader conditions (Mintrom & Luetjens, 2017; Green, 2017). Boasson (2015) conceptualized entrepreneurship as actions aimed at enhancing policy influence by altering the distribution of authority and information, and/or modifying norms, cognitive frameworks, worldviews, or institutional logic (p. 70), similar to what Boasson & Huitema (2017) defines entrepreneurship as. Green (2017) presented an alternative definition, describing policy entrepreneurs as individuals who leverage available resources and strategies to achieve their desired outcomes, thereby distinguishing them from the strategies they employ (Green, 2017).

These varying definitions serve to highlight the complexity inherent in the concept of policy entrepreneurship. While the discussion around these terms is extensive and sometimes contentious, this acknowledges the multifaceted nature of policy entrepreneurship and policy entrepreneurs. It draws upon Kingdon's (1984) perspective on the institutional affiliations of policy entrepreneurs (p. 122), Boasson´s (2015) emphasis on enhancing policy influence by either (or both) altering the distribution of authority and information, or modifying norms, worldviews, or cognitive frameworks (p. 70). Additionally, Green´s (2017) focus on distinguishing between the entrepreneur from their chosen strategies will be discussed in Chapter 3 and these elements will feature in the discussion circumstancing theoretical implications.

Therefore, this thesis will draw a clear distinction between the concepts of policy entrepreneurs and policy entrepreneurship. Here, policy entrepreneurship refers to the process or activity of

influencing policy change, while policy entrepreneurs are the individuals or entities who engage in these activities. As we delve deeper into the construct of policy entrepreneurs, it is important to recognize the institutional affiliations of these individuals or groups. Building on Kingdon´s (1984) initial definition, this thesis acknowledges that policy entrepreneurs can operate within various institutional frameworks, be the government or non-governmental, elected or appointed positions, or affiliated with interest groups or research organizations. However, we further refine this understanding by integrating Boasson´s (2015) dichotomy of actions.

This dichotomy recognizes policy entrepreneurship as a set of actions. These actions include those aimed at enhancing policy influence by altering the distribution of authority and information and those aimed at modifying or disseminating norms, cognitive frameworks, worldviews, or institutional logic. This nuanced understanding provides a more detailed picture of the policy entrepreneur, not just as an individual or entity but also in terms of their actions and the strategies they employ.

By employing this refined and more nuanced understanding, one can more accurately identify and analyze the role of policy entrepreneurs in the policy-making process. One can also better understand the strategies they employ and the contexts in which they operate, thereby providing a more comprehensive picture of the policy entrepreneurship process.

In the following chapters of this thesis, one will further explore this refined conceptualization of policy entrepreneurship and policy entrepreneurs. This thesis will apply these concepts to the case of the development of Norway´s battery strategy, providing a real-world application to these theoretical constructs. Through this approach, one aims to contribute to the ongoing scholarly discourse on policy entrepreneurs and policy entrepreneurship, providing new insights and perspectives that can further enrich this important field of study.

# 2.0 Background

The emergence of the battery industry in Norway highlights the need to establish a comprehensive understanding of the Norwegian battery industry. This chapter aims to provide a clear and detailed foundation for four key aspects: (1) the composition of a full-scale battery value chain, (2) the factors that have led Norway to develop a dedicated battery policy, (3) Norway´s battery strategy and what this includes and, (4) international and national policies that influence the development of battery policy.

To begin, this chapter will elucidate the concept of the Norwegian battery value chain, delineating the different components and identifying key actors involved in each stage. By establishing a common understanding of the Norwegian battery industry, readers can grasp the intricacies of the field under examination. The chapter will proceed by delving into a description of each part of the value chain, providing an overview of the prominent actors operating within these domains.

Subsequently, this chapter will delve into Norway´s battery strategy and the ten actions aimed at developing a Norwegian battery industry. This chapter is inherent to understanding the complex nature of battery policy, in addition to elaborating on the different policy issues that influence the industry. This way, one gets a comprehensive understanding of what policy issues the government and industry see as crucial to the development of a national battery industry. Furthermore, one will delve into the historical background of Norway´s engagement with batteries and EVs from 1989 to 2016. Understanding this historical context is crucial for comprehending the current state of the Norwegian battery industry and the underlying motives for the development of a national battery policy.

Then one will shed light on both international and Norwegian battery policies, and other policy areas, that hold significant relevance within the Norwegian context. Analyzing these policies will offer valuable insights into the regulatory frameworks, incentives, and international collaborations that shape the Norwegian battery industry. By exploring the interplay between domestic and global policy landscapes, a comprehensive understanding of the multifaceted nature of the industry will be attained.

In conclusion, this chapter serves as an essential foundation for the subsequent analysis and exploration of the development of Norway´s battery strategy. By elucidating the Norwegian battery value chain, providing a comprehensive description of Norway´s battery strategy, presenting a historical context, and examining pertinent policies, readers will gain a holistic understanding of the industry´s dynamics and complexities.

## 2.1 The Norwegian Battery Value Chain

To understand the full scope and complexity of the battery industry, one needs to understand what a battery value chain is. A *value chain* describes a series of activities that create and build value at every step (Economic Times, 2022). Each step of the value chain is essential since the next step often depends on the previous one.

In the context of a battery value chain, there are multiple descriptions of this term; however, these describe the same concept with different words. First, an entire battery value chain comprises minerals, raw materials, precursors, battery materials, components, battery cell productions, battery packs, and applications, 2nd. life, collection, recycling, and other uses (Ministry of Trade and Fisheries, 2022, p. 17). To be able to understand the full scope of the battery value chain, one needs to delve into the different parts of the value chain and establish what actors are present.

### *Minerals, raw materials, and precursors.*

Within the first part of the battery value chain, minerals[2], one finds Skaland Graphite AS which is located in Senja, where the world's richest flake graphite schist is, and one of Europe's largest and cleanest sources of natural graphite, is being mined (Gautneb, Lunch, Athola & Eklund, 2016; Ministry of Trade and Fisheries, 2022, p. 18). While Norway has limited mineral extraction, Skaland Graphite is the exception. Despite this, an overview made by the Nordic Council of Ministers shows that Nordic countries have great potential for increased critical mineral production (Ministry of Trade and Fisheries, 2022, p. 18).

Several other actors are working with raw materials, like Hydro, Glencore Nikkelverk, and Elkem. Elkem develops silicon products, silicon, and carbon solutions by combining raw materials. Glencore Nikkelverk produces nickel and is the largest nickel refinery in the Western

[2] This part of the value chain is focused on mineral extraction and is the first part of the battery value chain.

world, and Hydro produces aluminum by retrieving bauxite and alumina (Elkem, 2023; Hydro, 2023; Glencore Nikkelverk, 2023). Norway is a major exporter of these materials, including cobalt and copper (Ministry of Trade and Fisheries, 2022, p. 18). Furthermore, there are no Norwegian actors within the precursor[3] industry.

### *Battery materials, components, and battery cell production*

Norway has five industry actors that produce battery materials: Vianode, Borregaard, Cenate, Cealtech, and Tiotech (Ministry of Trade and Fisheries, 2022, p. 18). This part of the battery value chain produces cathode and anode, which is a central part of cell production. For example, Vianode produces anode graphite products (Vianode, 2023), Borregard manufactures additives for lead and lithium-ion batteries derived from Norwegian spruce (Borregaard, 2023), Cenate produces silicon-containing anode materials (Cenate, 2023), Cealtech has created battery technology based on their Graphene (Cealthech, 2023), and TioTech creates anode-materials for Li-ion batteries using lithium-titanate (TioTech, 2023).

While there are no Norwegian actors producing battery components now, there are three cell manufacturers: Freyr, Beyonder, and Morrow (Ministry of Trade and Fisheries, 2022, p. 19). These cell manufacturers usually draw much attention because of their enormous factories and the high number of jobs needed.

Freyr aims to provide industrial-scale clean battery solutions and produce green battery cells to decarbonize the energy- and transportation systems (Freyr, 2023). Freyr also decided that their GigaArctic project was to be in Mo I Rana with a capacity of 29 GWh (Ministry of Trade and Fisheries, 2022, p. 19; Freyr, 2022). Beyonder is a company based in Rogaland, turning Norwegian sawdust into battery cell technology (Beyonder, 2023). They are also participating in the Important Project of Common European Interest (IPCEI)[4] project (Ministry of Trade and Fisheries, 2023). The Arendal-based company Morrow is manufacturing battery cell technologies for mobility (NMC) and stationary storage (LFP), and they are aiming to commercialize a new generation of battery technologies for these two markets but based on the high-voltage material LNMO[5] (Morrow, 2023). Both Freyr and Morrow are in the process of

[3] Precursors is necessary to produce a cathode, which is one of four components of batteries and the cathode determines the capacity and voltage of a battery (Battery LAB, 30.09.2022).
[4] More on IPCEI is elaborated in the subsequent chapters.
[5] LNMO: Lithium Manganes Nickel Oxide

building their gigafactories in Arendal and Mo i Rana, while Beyonder has an operational lab in Sandnes with plans to upscale to production in the same area.

### *Battery packs, collection, recycling, and 2nd life*

Within battery packs is four Norwegian industrial actors: Corvus Energy, Siemens Energy, ZEM, and Evoy (Ministry of Trade and Fisheries, 2022, p. 19). Battery packs usually consist of hundreds of battery cells connected in series. This means that the battery packs consist of several battery modules containing multiple battery cells in series, parallel, or series-parallel (Li & Mazzola, 2012, p. 215).

Corvus Energy is a company founded in Canada that focuses on creating battery packs for the maritime sector and is now the most extensive installed base of ESSs with the most significant number of projects completed (Corvus Energy, 2023). Siemens Energy provides solutions for energy storage through the production of battery packs (Siemens Energy, 2023), ZEM offers battery solutions for the maritime sector (ZEM, 2023), and Evoy manufactures electric boat motors (Evoy, 2023). On the collection side, one finds BatteriRetur and Norsirk (Ministry of Trade and Fisheries, 2022, p. 19). BatteriRetur collects and recycles all battery types from across the country (BatteriRetur, 2023), and Norsirk offers production responsibility for EE products, batteries, and packaging (Norsirk, 2023).

Within recycling, one finds actors such as Hydrovolt, Glencore Nikkelverk, and ReSiTec (Ministry of Trade and Fisheries, 2022, p. 19). Hydrovolt is a company owned by Norwegian Hydro and Swedish Northvolt, and they focus on recycling batteries from the EV sector. Their battery recycling plant is based in Fredrikstad. When fully operational, they will recycle over 12,000 tons of battery packs yearly, which is more than enough to cover the entire volume of batteries being retired from the Norwegian EV Market (Hydrovolt, 2023). Glencore Nikkelverk, who also delivers raw materials, focuses on recycling end-of-life electronics, lithium-ion batteries, and other critical metal-containing products (Glencore Nikkelverk, 2023). ReSiTec specializes in handling, recovering, and treating powders, liquids, and suspensions (ReSiTech, 2023).

### *Summary*

The battery value chain in Norway, as portrayed in this chapter, is a complex and multifaceted structure, incorporating a vast array of actors from varied segments, with few exceptions. This

comprehensive representation elucidates the intricate nature of the battery industry, demonstrating the disparity among different elements within the value chain.
The purpose of illustrating these diverse actors and their roles is to emphasize the existence of multiple sub-industries[6] within the broader framework of the battery industry. In essence, the "battery value chain" is not a standalone term but an amalgamation of these numerous sub-sectors.

Furthermore, by highlighting the range of actors involved, it becomes clear that a considerable number participated in the policymaking process. This aspect underscores the collective and interactive nature of industry evolution and policy development.

Significantly, the role of actors engaged in the minerals and raw materials sectors must be acknowledged. Their output is not exclusive to the battery industry. A prime example is Hydro, a major supplier of aluminum not only for the battery industry but for other sectors as well. This cross-industry overlap is characteristic of several actors discussed in this chapter. This overlap also extends to policymaking, thereby reinforcing the interconnectedness of various industrial sectors.

## 2.2 The Norwegian EV-evolution - from A-ha to tax incentives

To understand the full scope of the development of the Norwegian battery industry, which led to the creation of Norway's battery strategy, we need to go back in time. Norway's story with batteries did not simply start with the cell manufacturers and giga-factories; it started with EVs.

Establishing a Norwegian battery industry may have started with A-ha frontman Morten Harket and environmentalist Fredrik Hauge importing an electric Fiat and driving it around Oslo in 1989, refusing to pay road tolls and parking illegally (Wallbox, 2022). This resulted in an increased amount of attention towards EVs, and the government took the task of implementing incentives for EVs.

[6] With sub-industries one means that there are so many different technologies present in the battery value chain. Therefore, there are also different needs in terms of what the different companies need to be able to be successful because you could say that within the battery value chain, there are multiple industries with different needs.

The Norwegian government's incentivization of EVs has led to Norway becoming one of the leading nations in EV adoption, with 79,3% of all new cars sold in the country in 2022 being EVs (Thronsen, 2023). The beginning of this trend can be traced back to the early 1990s when the Norwegian government began implementing EV incentives, such as no import tax and exemption from road tolls (Wallbox, 2022). Since then, further incentives have been introduced, including free parking, the ability to drive in bus lanes, and a reduced company car tax (Wallbox, 2022). In contrast, a 25% tax on fossil fuel cars has been introduced, making EVs more affordable than traditional cars (Wallbox, 2022).

The popularity of EVs in Norway skyrocketed following Tesla's entrance into the Norwegian market in 2013, with 1,521 Model S cars sold in March 2014 alone, making it the most popular model of any car ever sold in a month in Norway[7] (Tveit, 2014. "Buying a new electric car is more or less the same price as buying a nice petrol or diesel car now," said the Secretary General of the Norwegian EV association, Christina Bu (2020). This was reinforced by the Norwegian parliament's commitment in 2016 to the goal that all new cars sold by 2025 should be zero emission (Thronsen, 2023). Consequently, the country had the potential to establish a domestic battery industry (Interviewee 3, 2023).

The Norwegian government's incentivization of EVs has increased the attention from other countries. This has resulted in multiple foreign companies looking to Norway. Moreover, the most essential part of an EV is the battery because one would not be able to charge one's car without it. Therefore, one may argue that the increased focus on batteries has come from Norwegians' love for EVs and the recognition of this internationally.

## 2.3 The Norwegian Battery Strategy: actions, thoughts, and industry importance

"If Norway seizes the opportunities that lie ahead, the battery value chain could represent a significant share of the Norwegian industry portfolio, providing future-oriented, green jobs all over the country."

- *Jan Christian Vestre, Ministry of Trade and Fisheries (2022)*

[7] Based on 2014 numbers.

The Norwegian battery strategy is a strategic document focusing on ten actions for sustainable industrialization (Ministry of Trade and Fisheries, 2022, p. 5):

1. Leadership in sustainability along the entire battery value chain
2. Promote Norway as an attractive host country for green investments
3. Enter into industrial partnerships with key countries
4. Provide capital, loans, and guarantees that mobilize private capital
5. Improve access to relevant expertise
6. Pave the way for greater access to renewable power
7. Contribute to the provision of suitable sites and other central infrastructure
8. Ensure predictable, efficient, and coordinated public processes.
9. Support pilot municipalities during the growth phase
10. Become a leader in tomorrow's battery solutions and leverage the opportunities afforded by digital technologies

This strategic document is the key to understanding the motivations behind policy entrepreneurs' participation in the policy process. In addition to this, the document reflects the need for policy regarding the growing and demanding, Norwegian battery industry. This document is the only strategic document that is solely focused on batteries and delivers specific measures related to the ten actions and the issues the industry faces.

The Norwegian battery strategy focuses on presenting the challenges that lie ahead and what political measures need to be taken to unlock the potential for value creation in the battery sector (Ministry of Trade and Fisheries, 2022, p. 9). The government's vision "is that Norway will develop a complete and profitable battery value chain, stretching from sustainable mineral extraction to battery recycling…" (Ministry of Trade and Fisheries, 2022, p. 12). They also emphasize that the interaction between the industry and public sector is essential to be able to realize the Green Industrial Initiative (GII), which is another strategic document also launched in June 2022. They highlight that the Norwegian authorities "shall facilitate the use of the entire toolbox, and all the policy instruments must work together collectively" (Ministry of Trade and Fisheries, 2022, p. 14).

## *Unpacking the Norwegian battery strategy: An exploration of the Ten Strategic Actions.*

An in-depth exploration of the Norwegian battery strategy reveals a roadmap built on ten significant actions. These strategic steps outlined by the Ministry of Trade and Fisheries are pivotal in shaping the nation´s path toward securing a national batter industry.

*Leadership in Sustainability*: The first activity focuses on situating Norway as a global leader in the sustainable battery value chain. The government aims to contribute actively to the European battery value chain, alongside fostering the world´s most sustainable mineral industry. They will also present a mineral strategy during the course of 2022, where the goal is to develop the world´s most sustainable mineral industry. Efforts will be made to improve transparency in product content and new regulations will be considered to support this goal. The government also commits to fortifying the European value chain for critical raw materials (Ministry of Trade and Fisheries, 2022, p. 47).

*Host country attractiveness:* the second strategic action concentrates on promoting Norway as an ideal destination for green investments, with a particular interest in inviting substantial battery investments and gigafactories (Ministry of Trade and Fisheries, 2022, p. 48). To achieve this, the government will work to create a conducive environment for green value chain investments. Although the specifics of this approach are not elaborated, the strategy refers to the Norwegian export strategy and several governmental initiatives such as councils, secretariats, the "Made in Norway" national brand program, and Export Finance Norway´s (Eksfin) mandate as steps towards this goal (Ministry of Trade and Fisheries, 2022, p. 49).

*Industrial partnerships:* the third action calls for the establishment of industrial partnerships with key international players (Ministry of Trade and Fisheries, 2022, p. 50). These strategic partnerships, facilitated by Innovation Norway, are aimed at strengthening the Nordic cooperation for developing the battery value chain. Among the specific measures are plans to explore the potential participation in the IPCEI on batteries and find a resolution to the post-Brexit battery customs issue (Ministry of Trade and Fisheries, 2022, p. 52). More about these will be discussed in the subsequent chapters.

*Capital, loans, and guarantees*: The fourth action underscores the necessity to mobilize private capital, alongside providing risk mitigation funds to expedite industrial investments. The

government will focus on targeted risk mitigation, primarily through loans and guarantees, while enhancing Eksfin´s role in facilitating major new green industrial projects. A comprehensive review of the public policy apparatus is planned to better align with the green transition (Ministry of Trade and Fisheries, 2022, p. 55).

*Access to relevant expertise*: The fifth action highlights the industry´s need for proficient workers and relevant expertise. The government plans to consider recommendations from the BattKOMP[8] project to address this requirement (Ministry of Trade and Fisheries, 2022, p. 59).

*Access to renewable power*: the sixth action focuses on ensuring the availability of affordable, clean, and efficient renewable energy. The strategy highlights the need for synchronizing renewable power production with the development of the electricity grid. Measures include strengthening the power grid, improving licensing processing times, and exploring fixed-price agreements for individuals and companies (Ministry of Trade and Fisheries, 2022, pp. 62-63).

*Provision of suitable sites and infrastructure:* the seventh action identifies the need for efficient sites, infrastructure, and high-speed internet (Ministry of Trade and Fisheries, 2022, p. 64). The government plans to task Siva (in collaboration with Invest in Norway[9]) with facilitating the establishment of industrial projects and introducing a national strategy for preparing green industrial areas and parks (Ministry of Trade and Fisheries, 2022, p. 65).

*Predictable and coordinated public processes:* the eight action calls for the public administration to be proactive and coordinated in dealing with the business community (Ministry of Trade and Fisheries, 2022, p. 66). To facilitate this the government will provide a guide outlining requirements for location, area assessments, and studies connected to green industrial projects (Ministry of Trade and Fisheries, 2022, p. 67).

*Support to pilot municipalities:* The ninth action stresses the government´s role in supporting municipalities that have accepted new business establishments. This includes assisting with infrastructure needs such as housing, roads, and schools. The government plans to invite municipalities to engage in dialogue and share their experiences (Ministry of Trade and

[8] BattKOMP is a project directed by Norsk Industri in cooperation with LO and Prosess21, where the goal is to map the need for competence related to giga-projects in the Norwegian battery industry (Norsk Industri, 2023).
[9] Invest in Norway is a divison within Innovation Norway.

Fisheries, 2022, p. 69). Examples of such municipalities are Arendal and Rana, where two gigafactories are to be established.

*Leadership in Future Battery Solutions:* the final action points towards the future, aiming to position the Norwegian battery industry as a leader in "Industry 4.0". To achieve this, the government plans to foster strong centers of education, research, and expertise throughout the country and encourage close collaboration among various stakeholders (Ministry of Trade and Fisheries, 2022, p. 72).

This comprehensive, ten-point action plan lays the groundwork for Norway´s ambitions to be at the forefront of the global battery industry, integrating sustainability, innovation, and broad-based cooperation into its strategic approach. However, there remains an unanswered question regarding the motive behind creating the strategy and whether this strategic document could be argued to be specific enough to tackle the challenges the industry faces.

### *Expanding the Discussion on Norway´s battery strategy*

The battery strategy is a crucial document for understanding the Norwegian government´s priorities for the battery industry, as well as the political issues that capture the attention of industry stakeholders. It reflects the multifaceted nature of the battery industry, highlighting the numerous challenges and opportunities in establishing a sustainable, green, Norwegian battery industry and comprehensive value chain.

For instance, consider the establishment of a Gigafactory[10] in a town with 20,000 inhabitants. Such a factory would likely attract at least 4,000-6,000 new residents, not including partners or children. This growth would lead to increased demand for infrastructure, such as kindergartens, schools, job opportunities for potential partners, and housing. Furthermore, the factory would require robust infrastructure on-site and access to roads, airports, and maritime ports. Establishing a Gigafactory is no small feat, as it has the potential to strengthen an entire community through a single development. However, with such establishments, challenges also emerge.

[10] Gigafactory is often used to describe the establishments of cell manufacturers. They build large facilities where thousands of jobs are needed to run the facility.

In this context, Norway´s battery strategy highlights significant political issues, especially regarding broader societal impacts. However, the strategy does not offer specific solutions to these policy issues, suggesting that it merely brings these concerns to light. For example, the establishment of a Gigafactory comes with substantial financial risk. Cell manufacturers typically request risk mitigation funds to offset this risk, but the strategy does not mention any specific measures in this regard.

Capital is a critical factor for actors within the battery value chain, particularly for cell manufacturing, which demands significant capital investment (Interviewee 1, 2023). Although the strategy mentions risk mitigation and the government´s focus on providing loans and guarantees, it does not specify a dedicated amount of risk mitigation funds or other measures beyond the general statement. As a result, most measures within the strategy are broad and lacking in detail.

Another aspect worth considering is whether the strategy´s intention was to provide specific measures or not. As noted in the introduction, the entire process took roughly seven months, with the working group[11] beginning their work in January 2022 and finalizing the foundation in April 2022 (Interviewee 2,  2023). This timeline left the Ministry of Trade and Fisheries with only about 1.5 months to complete the strategy, which was launched in June 2022. This timeline suggests that the strategy´s primary goal may not have been to present a detailed plan with specific measures, but rather a strategy that enlightens the industry´s challenges and needs.

In that sense, Norway´s battery strategy is this thesis's most critical strategic document. The strategy, comprising ten actions and corresponding measures, indicates the government´s prioritized areas for the continuous development of the industry. However, despite reflecting the political issues associated with establishing a battery industry, the strategy´s measures do not include concrete details that could hold the government accountable for not following through on its commitments.

On the other hand, the strategy´s primary goal may not have been to provide specific measures. Instead, it could serve as a symbolic representation of Norway´s commitment to the European battery race. The government and industry actors might find it beneficial to have a national

[11] The Ministry of Trade and Fisheries put down a working group consisting of representatives from Prosess21, Siva and Invest in Norway in November 2022. More about this in the subsequent chapters.

battery strategy to showcase when promoting Norway as an attractive destination for battery investments abroad. This strategy could also benefit industrial actors seeking to market their products internationally.

If the strategy´s primary objective is to create a symbolic effect, it serves its purpose effectively. However, if the strategy´s intent was to help Norwegian industry actors grow and decrease risk, its success in achieving this goal is debatable. Moving forward, it will be crucial for stakeholders to consider the strategy´s objectives and the degree to which it effectively addresses the various challenges and opportunities within the battery industry.

## 2.4 International Battery Policy: Projects and strategic policy documents

This chapter will present international battery policies that influence Norway. The focus is to create a complete picture of what the Norwegian actors have presented as potential policy issues towards the government. A correlation exists between international battery policies and the Norwegian battery strategy: the international policies affect how Norwegian actors can expand and develop their businesses and what markets they should aim for. Additionally, these international policies have consequences for the Norwegian government regarding how they should build and strengthen the Norwegian battery industry.

### *European Green Deal (Green Deal)*

The European Commission (EU Commission) put forward a growth strategy in 2019 which describes the approach the EU will take moving forward with climate- and environmental policies (Regjeringen, 2020). The goals are that Europe, as a continent, is to be climate neutral by 2050, that there will be 55% less net greenhouse gas emissions by 2030, and that 3 billion additional trees will be planted in the EU by 2030 (European Commission, 2023).

The Green Deal is, in many ways, a revolutionary strategy passed by the EU Commission. This strategy represents the change of pace that one is seeing around the world, but especially in Europe. This document lays the foundation for what industries and focus areas European countries are to focus on. Looking at it from a Norwegian perspective, Green Deal also affects the Norwegian government's priorities to maintain and continue having competitive advantages in the European market.

Green Deal is, therefore, an important strategy passed by the EU Commission, which also affects Norway and Norwegian businesses within green industries. If Norway chooses to follow the guidelines proposed by the EU, it might be easier to gain access to the European Market. This will also affect Norway if they elect to move in another direction than the EU and make it harder for Norwegian actors to get access to the European market due to differences and inconsistency in policy.

### *Inflation Reduction Act (IRA)*

The U.S. also has a direct impact on the European battery industry. The Inflation Reduction Act came in 2022 and is the most "significant climate legislation in U.S. history" (United States Environmental Protection Agency, 2022). It is offering funding, programs, and incentives to be able to accelerate the transition to a clean energy economy (United States Environmental Protection Agency, 2022). There are 19 tax credits and incentives for businesses, nonprofits, educational institutions, and state, local and tribal governments (United States Environmental Protection Agency, 2022). More specifically, the Inflation Reduction Act contains 500 billion dollars in new spending and tax breaks, and this is to be able to boost clean energy, reduce healthcare costs, and increase tax revenues (McKinsey, 24.10.2022).

This is of great importance, mainly because it directly impacts the European battery industry. Consumers could benefit from purchasing EVs made in the U.S., and it is also mandatory to extract, process, and recycle raw materials and components in the EV in the U.S. domestically, not in a foreign country. If consumers purchase an EV made in the U.S., they could benefit from up to 7500 dollars in tax credits (Beroe Inc, 21.10.2022). In practice, this means that many businesses within the battery industry could benefit from moving their production to the U.S., which presents a challenge for the European battery industry, and therefore impacts the Norwegian battery industry.

### *Brexit*

Brexit is the name given to the United Kingdom´s (UK) exit from the European Union. This exit was a result of the referendum that took place in the UK on the 23rd of June 2016. On the 31st of January 2020, the UK left the EU (Government of the Netherlands, 2022).

When the UK left the EU, an agreement between the two was created: This agreement states that EVs produced in the EU with batteries produced in non-EU member countries will be

added 10 percent customs from 2027 when they are sold to the UK and vice versa (Lorch-Falch & Skei, 2021). To exemplify this: if a Norwegian battery cell manufacturer sells their batteries to a German car producer (e.g., Volkswagen) who sells their cars to the UK, there will be 10 percent customs fee because the battery (which is counted as a part of the car) is produced in a country that is not a member of the EU. This is an issue for Norwegian battery actors because EV batteries comprise approximately 90% of the battery market (Interviewee 3, 2023).

As of late, there has been some progress in the relationship between the EU and Norway after Brexit. The Norwegian government has gone to Brussels multiple times to convince the EU that close cooperation related to the battery industry is necessary (Melgård, 2022).

### *Important Projects of Common European Interest (IPCEI)*

"... IPCEI is the Champions League for big battery projects, and we have all seen that Norwegians can dominate there. Now we´re sending the Norwegian elite team within batteries to Berlin to find European project partners" (Vestre, 2022).

IPCEI focuses on contributing to economic growth, jobs, and competitiveness for the industries and economies in the EU (European Commission, 2022). IPCEIs are essential tools in the EUs business policies. It includes the member states cooperating on projects within strategically important value chains where the states can deter from ordinary rules about governmental support for innovative projects in cross-border cooperation (Ministry of Trade and Fisheries, 2022). Maybe one of the most important aspects of participating in an IPCEI is the access to other key players within the European battery value chain (European Battery Alliance, 2023)

It is important to mention that Norway was not a part of any of the IPCEIs before February 2023. On the web page of Prosess21 and their expert report from 2020 on the EUs Green Deal and how it affects the Norwegian process industry, they also conclude that Norway should focus on becoming a part of IPCEI (Prosess21, 2020, p. 36). During multiple interviews, this was highlighted as necessary. At the same time, some say they do not believe Norway should be part of IPCEI to be able to develop a national battery industry (Interviewee 2, 2023; Interviewee 3, 2023; Interviewee 6, 2023).

## 2.4 National Battery Policy: Projects and other strategic policy documents

In addition to Norway's battery strategy, and international policies, there are a number of other national projects and strategic documents that are connected to the development of a national battery industry and therefore are connected to Norway's battery strategy. These are not necessarily considered official documents or projects established with the purpose of strengthening the battery industry solely. However, they are deemed important in this thesis and in a broader sense. This chapter will present these projects, documents, and forums. Additionally, it will establish a foundation for understanding the dynamics within the policy process regarding Norway's battery strategy.

### *Prosess21*

Prosess21 is a forum comprising people from businesses and organizations within the process industry. This forum was created by the Norwegian Ministry of Trade and Fisheries in April 2018. The actors include Elkem, Norsk Hydro, Borregaard, Alcoa Mosjøen, Eyde Innovation Center, HeidelbergCement (Norcem), Norsk Industri, LO, SINTEF, and NTNU (Ministry of Trade and Fisheries, 2018). The forum provides advice and guidance on how Norway can reduce climate gas emissions from the process industry in 2050 in the most effective way while still ensuring that the process industry has sustainable growth (Prosess21, 2022).

In January 2021, they delivered a report based on 10 expert groups that have created their own sub-reports based on their mandate (Prosess21, 2021, p. 7). While this report includes many different industrial areas, there is a clear focus on the battery industry. Prosess21 discusses establishing a Norwegian battery industry and states that the potential for producing materials included in Lithium-Ion batteries is big. In the report, they also explain the possibilities regarding the potential the Norwegian battery industry may have, considering that the power produced in Norway is renewable and can contribute to producing "green batteries" (Prosess21, 2021, p. 70).

The most exciting part of the report presented by Prosess21 is that they advise on what Norway should do to be able to create a Norwegian battery industry, split into three-time frames: 2020-2025, 2025-2030, and 2030-2040. From 2020-2025, Norway ought to begin building industrial

activity along the battery value chain based on national competitive advantages, private capital, competitive support schemes, and cooperation with foreign actors. From 2025-2030, Norway should scale up green, competitive battery cell production, and Norwegian actors in processing raw materials, component production, and composition should strengthen its Norwegian and European client base. Last, from 2030-2040, Norwegian actors should increase their market share within battery-specific materials. Norwegian battery cell production has a capacity of over 100 GWh and is established as a giga-component production. In addition, Norwegian actors have established a position within specific markets for a composition of batteries, and there is a significant Norwegian industry within recycling and re-use of batteries. Finally, the report has a significant focus on competence building and the development of technology in Norway to take strong positions up to 2050 (Prosess21, 2021, p. 79).

### *Green Industrial Initiative (GII)*

In the same period as the Norwegian battery strategy launch, the Ministry of Trade and Fisheries and the Office of the Prime Minister launched the GII. This framework focuses on seven priority areas: offshore wind, batteries, hydrogen, carbon capture and storage, the process industry, the maritime industry, the forestry and timber industry, and other bioeconomy sectors (Ministry of Trade and Fisheries & the Office of the Prime Minister, 2022, p. 9). Related to the battery industry, the Government's vision is:

> Norway will further a coherent and profitable battery value chain ranging from sustainable mineral extraction to recycling of batteries. Norway will be an attractive host country for profitable activities throughout the battery value chain and attract large battery investments and giga factories (Ministry of Trade and Fisheries & the Office of the Prime Minister, 2022, p. 12).

However, the most important measures are (Ministry of Trade and Fisheries & the Office of the Prime Minister, 2022, p. 25):

- The Government's ambition is to strengthen the capacity of the power grid and to shorten license processing times.
- The Government will present a national strategy for preparing green industrial areas and industrial parks with international competitive advantages.
- The Government will prepare a mineral strategy to develop the world's most sustainable mineral industry in Norway.

- The Government will mobilize as much private capital as possible for the green transition, including through internationally competitive schemes for risk mitigation. The estimated need for government risk mitigation for the Green Industrial Initiative is NOK 60 billion by 2025.
- The Government will review the entire public policy apparatus to sharpen further efforts toward the green shift in the business sector and to support the Green Industrial Initiative.
- The Government will implement a broad skills reform based on tripartite cooperation for working life. The Government is concerned with implementing such a reform with special emphasis on the industrial sector's future challenges.

Most of the measures outlined here, except for one that specifies the amount of money needed for risk mitigation, are general in nature. However, these measures illustrate that there are common needs for the different industries, that they face similar challenges, and need to ensure development.

### *Summary*

This comprehensive background chapter explores the complexity and evolving nature of the battery industry, covering international and national battery policies, a historical overview of the industry, and a deep dive into Norway´s battery strategy. It also provides an in-depth examination of the Norwegian battery value chain, tying together various elements to depict the trajectory of battery technology and policy.

Beginning with examining the Norwegian battery value chain, one gets an overview of what elements are present in each part of the value chain, in addition to what actors are present. By presenting this, one gets an understanding of the complexity of the industrial field and the various technologies and "sub-industries" that exist. Continuing by presenting the historical context regarding Norway´s history with EVs, explains the development, challenges, and opportunities that lie within the development of the Norwegian battery industry.

Furthermore, this chapter identifies international and national policies and their significance within the Norwegian context. Key international initiatives like the Green Deal and IRA signify a global shift towards favoring specific green industries, necessitating an attentive stance from EU member countries and non-members alike. Brexit and the IPCEI on batteries underline the

need for countries like Norway to stay abreast of EU policies, further emphasizing the strategic interplay between national and international regulations.

Within the national landscape, the chapter acknowledges the scarcity of official policies relating to batteries, providing motivation for this study. It highlights initiatives like the Green Industrial Initiative and Prosess21, which have catalyzed attention toward the battery industry in Norway and have outlined specific areas of focus within the battery value chain.

The heart of the chapter is the analysis of Norway´s battery strategy. It examines the strategy´s ten action points and associated measures, identifying them as the government´s priority areas for nurturing the industry. Although the chapter critically observes that these measures lack specificity, it also considers the possibility that the strategy´s purpose may extend beyond concrete actions, serving instead as a symbolic ticket for Norway into the European battery race.

The strategy might also play a significant role for Norwegian industrial actors both domestically and internationally, as it represents the nation´s commitment to a sustainable battery industry. This strategy´s effectiveness in fostering local growth and attracting foreign investment is up for debate, introducing an opportunity for further exploration using policy entrepreneurship theories.

Ultimately, the chapter presents a multifaceted background of the battery industry and policies, setting the foundation for understanding the industry´s dynamics, the implications of Norway´s battery strategy, and the potential future of the industry in Norway and beyond.

# 3.0 Theory

The policymaking process can be complex, and policy entrepreneurs can play a vital role in shaping and driving policy change. To be able to answer the research question, of to what extent policy entrepreneurship theories can explain the emergence of Norway´s battery strategy, this thesis requires taking a deep dive into the world of policy entrepreneurship theories. Policy entrepreneurship theories are critical to understanding how policy entrepreneurs operate and how they can impact the policymaking process.

As discussed in Chapter 1, there is extensive literature on policy entrepreneurship. This thesis will create a theoretical framework based on the different policy entrepreneurship theories and approaches presented in this chapter. This chapter will first focus on several key approaches to policy entrepreneurship and look at different theoretical approaches used to either analyze a similar case to this thesis´ or to other cases related to policymaking processes. Secondly, this chapter will distinguish between structural and institutional entrepreneurship and explore different types of commitment to policy issues (Carpe Diem or Tortoise). Understanding these different approaches is essential to develop a framework for analyzing the case of the Norwegian Battery Strategy, and if policy entrepreneurship were present in this specific case.

To do this, one must first establish who is a policy entrepreneur and who is not, and therefore, this thesis focuses on what kind of entrepreneurship has taken place in this case, but to do so, one must identify the entrepreneurs. Actors within a policy process can take on many forms, ranging from individuals within the government to those in the private sector or non-governmental bodies. Identifying these individuals and understanding their motivations and actions can help us understand the case of the Norwegian Battery Strategy and how this strategic policy document was developed.

This chapter will therefore analyze what attributes and skills policy entrepreneurs have based on Mintrom's (2019) strategies to ensure policy change. Policy entrepreneurs can have a significant impact on policy processes, and they often bring new ideas, knowledge, and expertise to the table, which can help shape and influence policy decisions. Additionally, policy entrepreneurs can help build support for new policies, working to convince stakeholders and decision-makers of the benefits of the proposed change.

Understanding the attributes and skills of policy entrepreneurs can also help us understand how policymaking occurs. These individuals often possess strong leadership skills, are adept at navigating complex networks of stakeholders, and are persuasive communicators.
However, policy entrepreneurs also need to employ set strategies to be able to successfully affect policy. They employ a wide range of strategies to achieve their goals, ranging from coalition building to using public opinion to their advantage. Understanding these strategies is critical to developing a framework for analyzing the development of the Norwegian Battery Strategy.

Therefore, this chapter´s goal is to be able to establish a theoretical framework that can be used for analyzing the findings gathered from the semi-structured interviews. By examining the different approaches to policy entrepreneurship, identifying policy entreprenerus, understanding the effects they can have on policymaking, and considering the different types of entrepreneurship and commitment types, one can develop a framework for analyzing the case of the development of a Norwegian battery strategy. Additionally, the hope is that this framework can inspire future research to consider the complexity of policy entrepreneurship and that more extensive research on the topic is needed to fully explain the dynamics within such processes.

## 3.1 Pre-existing literature: Exploring Policy Entrepreneurship and Policymaking

The importance and understanding of how policy invention and change work has become increasingly important, especially given the green shift and regarding climate change challenges (Brouwer & Huitema, 2018, p. 1259). This part of the theoretical chapter will put forward previous literature on both policy entrepreneurship theories, in addition to other contributions to the literature that could be related to this thesis.

### *Prior case studies related to batteries and policymaking.*

Birkeland and Trondal (2022) focused on the policymaking process in the European

Commission for the Battery Regulation Proposal (2020). They examined the European Commission as a contracted and detracted institution[12]. They investigated the two policy teams

[12] Detraction: the act of disparaging or belittling the reputation or worth of a person, work etc. Contracted: Restricted.

behind the proposal - DG Environment (ENV) and DG Growth (Grow), focusing on the resilience of the "silo" organizational structure of the European Commission. Their study found that executive contraction and detraction were present in formulating the EU Battery policy. While Birkeland and Trondal (2022) provide insight into policymaking and policy entrepreneurs in the context of the European Commission, their study does not encompass the Norwegian policymaking system.

Furthermore, Tellmann (2016) examines public policymaking experts, specifically in Norwegian climate policymaking and public committees (p. 3). The study highlighted the potential for increased explorative negotiation with the involvement of experts and how experts´ introduction of professional standards for judgment could provide them with greater authority in defining the right answers and justifications. In addition, Tellmann (2016) includes what role experts play in democracies because their influence is based on labor rather than democratic accountability (Bohman, 1999; Turner, 2001; Jasanoff, 2005; Christiano, 2012; Tellmann, 2015: 3). This study shows how involving experts in public committees, or as "guides" for publicly elected officials in committees, could create asymmetrical relations and influence decision-making processes whereas you may base your decision as an elected official on the professional standards created by experts. This study´s focus on the role of experts in policy processes is important, however, this study is more focused on the specifics of actions so-called experts use to affect policy and acknowledges the presence of such experts as "guides" for publicly elected officials.

### *Climate governance entrepreneurship*

Boasson and Huitema (2017) present a review of climate governance entrepreneurship, arguing that actors fulfilling their job are not entrepreneurs by all means. They provide a deeper understanding of entrepreneurship by exploring two categories of entrepreneurship: "[...] (1) acts aimed at enhancing governance influence by altering the prevailing distribution of authority and information, and (2) acts aimed at altering or diffusing norms and cognitive frameworks, worldviews or institutional logics" (Boasson & Huitema, 2017, p. 1345). They argue that the promotion of change and public versus private governance match the extensive existing literature on entrepreneurship. Thus, further exploration of these issues needs to be done, and this most likely requires more coherent, collaborative, and systematic comparative research (Boasson & Huitema, 2017, pp. 1357-1358).

The policy entrepreneurship theories used in this thesis answer this request by focusing on the use of the development of a Norwegian Battery Strategy as a case study. However, this thesis takes a narrower approach and delves into the details of the policy process. This thesis includes looking at behavior, key events, and the entire scope of actors to identify who is a policy entrepreneur. At the same time, the argument that actors merely doing their job is not a policy entrepreneur is an interesting aspect and will be a part of the discussion in the subsequent chapters.

Boasson (2015) discusses entrepreneurial mechanisms and argues that some actors are better at influencing political decision-making than others (2015, p. 62). However, establishing a good understanding of entrepreneurship in the setting is not necessarily straightforward. International trends have created opportunities for entrepreneurship and entrepreneurial mechanisms to flourish (Boasson, 2015, p. 62). One must examine how these, and entrepreneurship are defined in this setting to understand entrepreneurial mechanisms. Some identify entrepreneurs by their success level, others by what intentions they have, and often it has been assumed that entrepreneurial success is based on what attributes and skills the entrepreneur has (Dahl, 1961, p. 6; Schneider & Teske, 1992, p. 737; Mintrom, 1997; Boasson, 2015, p. 63).

However, entrepreneurs have not only been defined by their success; Dahl (1961) and Roberts & King (1991) have also argued that unsuccessful actors may also be recognized as entrepreneurs (Boasson, 2015, p. 64). It is also essential to highlight the relationship between social mechanisms and entrepreneurial mechanisms because some argue that one cannot live without the other: "...the position of an entrepreneur is not a disposition or a quality of an individual: it is a role that becomes available under certain social conditions" (Fligstein & McAdam, 2012, p. 181).

### *Structural and institutional entrepreneurship*

Boasson (2015) distinguishes institutional and structural entrepreneurship. In contrast, structural entrepreneurship directly targets policy decisions, and institutional entrepreneurship focuses on altering institutional features to lead to policy change (Boasson, 2015, p. 69).

Building on this, one can say that institutional entrepreneurship "is about altering decision maker's preferences and ways of thinking" (Boasson, 2015, p. 68). This can, for example, be

through activities like persuasion and framing. Persuasion in this sense is looked at as central to entrepreneurial activity, and scholars like Goodin with colleagues (2006), Finnemore & Sikkink (1998), and Baumgartner & Jones (1993) focus on persuasion as a necessary attribute to be able to secure policy change (Boasson, 2015, p. 68).

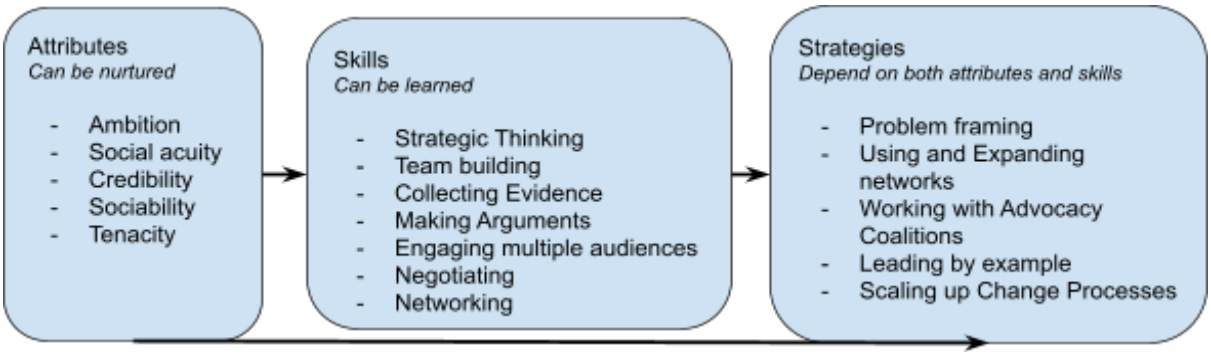
On the other hand, we have structural entrepreneurship involving activities like networking and agenda-setting. First, networking is by many scholars mentioned as a key activity within entrepreneurial activities and is described by Boasson (2015) as "a means of mobilizing allies and inducing cooperation among others" (p. 66; Hardy & Maguire, 2008; Leca et al., 2006). Such networks can exist in looser forms, where it is more informal or of a temporary character; however, it is essential not to be confused with relationships that have endured for a more extended period and are more structured (Boasson, 2015, p. 67). At the same time, such networks should not be underestimated, as they can develop into becoming an organization or more formal collaborations between organizations and businesses (Boasson, 2015, p. 67; Leblebici et al., 1991).

Second, agenda-setting is an essential aspect of structural entrepreneurship where it is described as the ability an entrepreneur has to articulate and introduce new ideas into the legislative process (Kingdon [1984], 2011; Mintrom, 1997: Finnemore and Sikkink, 1998; Boasson, 2015, p. 67). To be able to successfully use agenda-setting as a method to ensure policy implementation or change, entrepreneurs need to seize the opportunities that lie ahead of them (Cohen et al., 1972; Kingdon [1984], 2011; Boasson, 2015, p. 67)

### *Attributes, skills and strategies*

Furthermore, Mintrom (2019) has created an overview of what attributes, skills, and strategies policy entrepreneurs often share. He argues that entrepreneurial strategies only are helpful if policy entrepreneurs possess specific attributes and skills (Mintrom, 2019, pp. 308-309). Even though there might be implications related to this argument, it is an essential nuance to bring into the discussion later in the thesis. Figure 1. shows how the interaction between attributes, skills, and strategies plays out.

**Figure 1.** *Based on Mintrom (2019). Common attributes, skills, and strategies of policy entrepreneurs (Mintrom, 2019, p. 308).*




If one is to drive a significant policy change or implementation, this requires serious commitment and energy from those involved. In addition, those who are prepared to do this must be highly motivated by something more extensive that ensures a better future (Quinn, 2000; Collins, 2001; Mintrom, 2019, p. 309). Based on Mintrom's argument (2019), there is not only a need for motivation and beliefs in a better future to be a "successful" policy entrepreneur. One also needs to have ambition, exhibit social acuity, be able to pass relevant credibility tests, display sociability, be tenacious, and these attributes are necessary if one wants a strategy to work (Mintrom, 2019, p. 309) successfully. In this setting, attributes are described as inherent capabilities or characteristics that are permanent in a person. However, it is also important to highlight that while policy entrepreneurs and professionals would most likely benefit from having these characteristics or attributes, it is not necessarily clear that such attributes can be easily acquired (Mintrom, 2019, p. 310).

When it comes to ambition, it is an important attribute because it tells us something about a person's willingness to invest in various resources in the hope of a future return, as Kingdon (1984; 2011) has already argued. Such ambitions lead people to make investments (Kingdon, 1984; 2011), and through this engagement and ambition for a cause, policy entrepreneurs can enhance their credibility (Mintrom, 2019, p. 310). Regarding social acuity, Mintrom argues that policy entrepreneurs require high levels of competence to understand the social contexts and psychological states of others and act accordingly (Mintrom, 2019, p. 310; Mintrom & Norman, 2009; Funder & Harris, 1986). Suppose a policy entrepreneur has a high degree of social acuity. In that case, it means that he/she can discover how people are thinking about problems, concerns, and motivations and then develop ideas about how to construct effective advocacy efforts, how to use their networks, and what kind of policy arguments, political support and evidence will make the most use in a particular policymaking setting (Mintrom, 2019, p. 310).

Related to credibility, policy entrepreneurs usually attract others to work with them, and therefore, they need to achieve a certain degree of credibility. Suppose they have expertise in particular fields, hold particular positions around the government, or have a compelling narrative of their lives or past achievements. In that case, they are most likely to experience people perceiving them as credible (Mintrom, 2019, pp. 310-311). The fourth attribute is sociability, differentiating from the previously mentioned attribute, social acuity. It is different from social acuity in that policy entrepreneurs with high sociability can make people feel appreciated and use this attribute to gain and expand networks, in addition to building advocacy coalitions. This way, they can help others see how their actions contribute to the visions for policy change (Mintrom, 2019, p. 311). The last attribute mentioned is tenacity. It refers to the policy entrepreneurs´ ability to willingly keep working towards the bigger goal even if the road is bumpy or the end of the tunnel cannot be seen. Having a high degree of tenacity when being a policy entrepreneur is important, mainly because they often work in complex contexts where the chances of success may be slim (Mintrom, 2019, p. 311).

Mintrom (2019) also argues that policy entrepreneurs need a set of skills to implement strategies, which again affects policy successfully. The first skill that Mintrom (2019) presents is strategic thinking, when people choose a particular goal and then determine which actions must be done and what resources are needed to pursue and achieve that goal. Policy entrepreneurs usually find themselves in environments where it is expected to be highly professional and strategic. Considering this policy entrepreneurs must adapt to such environments to participate in the game (Mintrom, 2019, p. 312). It is important to note that this is not effective if a policy entrepreneur acts alone, which brings us to the second skill presented by Mintrom (2019): team building. Getting along well with others and being well-connected in policy contexts creates an opportunity where you will be more likely to achieve policy goals (Mintrom, 2019, p. 312; Kingdon, 1984; Kingdon, 2011; Mintrom & Salisbury, 2014; Rabe, 2004).

Being a policy entrepreneur is a complex role. There is a need for policy entrepreneurs not only to be strategic thinkers and team players but also need to collect evidence to back up the reason why they want the policy change or implementation. Regarding the collection of evidence, there are two key aspects; to 1) be aware of what existing evidence can be useful regarding a specific perspective on a problem and 2) to find new ways of collecting evidence that can be used to promote policy innovation (Mintrom, 2019, p. 313; Stone, 1997). Policy entrepreneurs

need to be good at making compelling arguments to maximize the value of said collected evidence. Such arguments need to consist of two elements: 1) build support for the policy change or implementation and 2) weaken opposition to said policy change or implementation (Mintrom, 2019, p. 313). Policy entrepreneurs must be successful at tactical argumentation to promote policy change or implementation (Mintrom, 2019, p. 313; Cox, 1983).

Furthermore, policy entrepreneurs must find ways to engage multiple audiences to change the minds of people in different positions in the policy community (Mintrom, 2019, pp. 313-314). What is common to see when engaging multiple audiences is that policy entrepreneurs organize seminars, workshops, and meetings with key decision-makers and stakeholders or make videos, blogs, tweets, and reports (Mintrom, 2019, p. 314). By doing this, one can achieve what Riker (1986) called "heresthetic". Heresthetic refers to the discovery of common interests between multiple parties which leads to the support of an idea which at the beginning was unlikely to gain support (Riker, 1986; Shepsle, 2003; Mintrom, 2019, p. 314). The sixth skill mentioned by Mintrom (2019), negotiating, is a skill that policy entrepreneurs can benefit from in multiple ways. It can assist a policy entrepreneur in winning support from those who have something to win on a policy change; in addition, it can reduce the emergence of conflict and the scope of conflict from those who have something to lose on that same policy change (Mintrom, 2019, p. 314).

In many ways, this is about policy entrepreneurs identifying and understanding that policy changes have both positive and negative implications for different target groups, and by being a good negotiator, one can focus on the positive impacts and find ways to reduce negative impacts (Mintrom, 2019, p. 314; Fisher, Ury & Patton, 1991). Furthermore, a key skill to possess as a policy entrepreneur is networking. Many scholars have demonstrated that if policy entrepreneurs engage in policy networks across jurisdictions, they can increase the probability of success in said policy change (Mintrom, 2019, pp. 314-315; Kammerer & Namhata, 2018; True & Mintrom, 2001). For anyone who is seeking to change or implement a policy, it is, therefore, crucial to understand and have an awareness of the nature of policy networks operating around them and find ways to participate in those networks (Mintrom, 2019, p. 315; Goyal, Howlett & Chindarkar, 2019; Mintrom, 2003).

### *Strategies to ensure policy implementation.*

As shown in Figure 1, Mintrom (2019) also defined six strategies to ensure policy implementation; however, Boasson (2015) also includes "strategies"[13] in the description of both institutional and structural entrepreneurship; however, this is described as entrepreneurial techniques. This means Boasson's (2015) structural and institutional entrepreneurship theory will be expanded with Mintrom's (2019) strategies to ensure policy implementation.

#### *Problem Framing*

How problems are framed is important in the setting of policy entrepreneurship because it determines what individuals and groups will pay attention to them. Furthermore, this suggests that those advocating for policy change can improve their chances of winning support if they frame problems and portray them in new[14] ways (Fisher, Ury, and Paton, 1991; Heifetz, 1994; Mintrom, 2019, p. 316). Mintrom (2019) argues that to be able to frame problems in a certain way, it is essential that you possess attributes like social acuity with negotiation skills (Mintrom, 2019, p. 316; Fisher, Ury, and Patton, 1991; Heifetz, 1994). Theoretically, in which policy entrepreneurs can frame problems in various ways, and there are several tactics they can employ when they seek to frame problems in specific ways. Additionally, whether such methods are "new", "innovative", or require skills in negotiation and social acuity is uncertain. Political consciousness, creativity, and emotional intelligence could prove crucial.

Examples of tactics used in this activity are presenting evidence in ways that suggest a crisis is at hand, finding ways to highlight failures of the current policy, and drawing support from actors beyond the immediate scope of the problem (Schattschneider, 1960: Nelson, 1984; Roberts & King, 1991; Baumgartner & Jones, 1993; Levin & Sanger, 1994; Stone, 1997; Henig, 2008; Mintrom, 2019, p. 316). In the case of this thesis, problem framing should be a strategy used by several policy entrepreneurs because a complete Norwegian battery value chain is somewhat of a new concept without previous policies. Therefore, those with self-interest in the battery policy are focused on specific areas and would benefit from the policy being framed in a specific way based on this strategy.

[13] Structural entrepreneurship: Networking and Agenda-setting. Institutional entrepreneurship: Persuasion and framing.

[14] Arguably, the way in which one decides to frame a problem does not, by all means, have to be "new" or "innovative", as several issues can benefit from being framed by "old-school methods", such as by resorting to stimulate certain emotions in the targeted group.

*Use and Expansion of Networks*

In addition to problem framing as an important strategy for implementing policies, it is also essential that policy entrepreneurs understand that their contacts and networks possess knowledge and skills that can be useful when they want to gain support for their policy change or implementation (Mintrom, 2019, p. 316; Burt, 2000; Knoke, 1990). Accordingly, policy processes have the characteristic of them that they can be very diverse. Policy entrepreneurs as part of a larger coalition of allied interests tend to attain more policy processes (Arnold, Nguyen Long, and Gottlieb, 2017; Mintrom, 2019, p. 317).

Some scholars also emphasize that the complexity of effectively affecting policy is not necessarily a one-person job and that a single individual most likely could not achieve this goal (Aviram, Cohen & Beeri, 2020, p. 614; Petchey, Williams & Carter, 2008). Consequently, theories about policymaking can benefit from taking on a broad approach that acknowledges the potential for diverse processes consisting of numerous and different actors. In doing so, scholars would be better equipped when seeking to analyze the non-deterministic nature of "real life".

There is a need for a coalition of entrepreneurs and a network, and this would open windows of opportunity related to policy change (Aviram, Cohen & Beeri, 2020, p. 615; Oborn, Barrett & Exworthy, 2011). The study by Aviram, Cohen & Beeri (2020) showed that networking and team building are strategies that policy entrepreneurs rely on (Aviram, Cohen & Beeri, 2020, p. 628). This is also in line with structural entrepreneurship, where the key activity is using networks and networking. Policy entrepreneurs would, based on this theoretical approach, have a higher probability of being successful with their policy proposals if they are part of a larger coalition.

*Working with Advocacy Coalitions*

Building on the use and expansion of networks, working with "advocacy coalitions" constitutes another closely related strategy. Sabatier (1988) defined an advocacy coalition as "people from a variety of positions (elected and agency officials, interest group leaders, researchers, among others) who share a particular belief system - for example, a set of basic values, causal assumptions, and problem perceptions - and who show a nontrivial degree of coordinated activity over time" (Sabatier, 1988, p. 139). This framework assumes that members of an advocacy coalition will disagree on minor matters, but that these disagreements will be limited

in terms of conflict level. In addition, the framework rejects the possibility that "coalitions of convenience" motivated by "short-term self-interest" can have lasting impacts on policy directions (Sabatier, 1988; Mintrom, 2019, p. 317). Another important aspect related to advocacy coalitions is the size of said coalition. The size can be crucial because it affects the degree of support a proposal can get (Mintrom, 2019, p. 318).

*Leading by Example*

Another way policy entrepreneurs can promote proposals for policy implementation and change is by leading by example. Leading by example make policy change believable, and some examples are that policy entrepreneurs often take actions to reduce the perception of risk among decision-makers. In addition, they also engage with others to clearly demonstrate the workability of a policy proposal. Simply put, leading by example is taking an idea and turning it into action themselves, and when they do this, they signal a genuine commitment to improved social outcomes (Mintrom, 2019, pp. 318-319).

*Scaling up change processes*

When policy entrepreneurs seek to promote significant policy changes, they should pay careful attention to scaling up their advocacy efforts. This often requires policy entrepreneurs to secure desired changes in one jurisdiction and then use these changes as evidence when they want to implement changes in other jurisdictions (Mintrom, 2019, p. 319). As such, policy entrepreneurs can employ various strategies, often including other policy areas, to achieve their desired outcome(s).

If this is reflected by the findings of this thesis, there is a need to see if policy entrepreneurs have focused on affecting policy in other areas, not only affecting just the battery strategy. As mentioned in the chapter 2, establishing the battery industry involves businesses placed in the battery value chain and other regulations, e.g., competence, availability of power and electricity, site infrastructure, and ensuring enough housing for future employees.

## *Commitment types - Tortoises and Carpe Diemers*

In addition to the strategies Mintrom (2019) use to describe policy entrepreneurs, Boasson and Wettestad (2014) distinguish between two types of commitments that policy entrepreneurs have when trying to affect policy. The two types of commitment are "carpe diem" and

"tortoise". These are not described as personality traits, but the type of commitment can be viewed as being issue specific. This means that a policy entrepreneur may act as a tortoise in one issue area and a carpe diemer in another (Bosason & Wettestad, 2014, p. 406). A policy entrepreneur that performs entrepreneurship with tortoise commitment is usually slow and steady, with long-term horizons and a solid commitment to a particular policy perspective or solutions. This, in turn, will give them a better opportunity to frame a situation and induce changes in the policy development procedure (Boasson & Wettestad, 2014, p. 406). In contrast, carpe diem actors have short-term approaches and a shallower commitment regarding the policy issue. They often exploit policy windows rather than create them, as a tortoise actor would do (Boasson & Wettestad, 2014, p. 406).

Several contributions to the literature use policy entrepreneurship to explain policy development and policymaking; however, they are too broad to grasp the finer mechanics of policy outcomes. Furthermore, the literature concerning battery policies, in general, is scarce, especially in a Norwegian context. Having addressed these gaps, this thesis provides an in-depth understanding of Norwegian policymaking in the context of batteries, aiming to understand more of the mechanisms triggering specific outcomes.

## 3.2 Theoretical argument

As we have identified, there are many theoretical approaches within policy entrepreneurship, and these have gained significant attention among scholars and policymakers due to their potential in explaining the emergence and adoption of policy innovations. Policy entrepreneurship theories suggest that policy change is not only a result of political and institutional factors but also of individual actors who act as entrepreneurs to promote new policy ideas and solutions.

This chapter presents a theoretical argument consisting of multiple policy entrepreneurship theories. The integration of these theories allows for a more nuanced understanding of the complex and dynamic nature of policy entrepreneurship. It also provides a more holistic approach to the role of policy entrepreneurs.

In addition, this chapter identifies some weaknesses in existing policy entrepreneurship theories. These limitations have prompted the need to merge several theories to provide a more

robust framework for analyzing the occurrence of policy entrepreneurs in the case of the Norwegian battery strategy, and the role of policy entrepreneurship.

In conclusion, this chapter will provide a theoretical argument that explores the extent to which policy entrepreneurship theories can explain the emergence of the Norwegian battery strategy. By merging several theories and identifying their limitations, this chapter seeks to provide a more comprehensive understanding of policy entrepreneurs' role in policy processes.

## *The Intersection of Boasson´s (2015) Structural and Institutional Entrepreneurship and Mintrom´s (2019) Strategies*

This thesis critically analyzes and discusses the relevance of the concepts of structural and institutional entrepreneurship, as delineated by Boasson (2015), vis-a-vis Mintrom´s (2019) strategies for facilitating policy change. The categorization of policy entrepreneurs into distinct groups, based on the nature of their entrepreneurial activities, provides a solid foundation for evaluating their influence on policy-making processes. This thesis argues that the categorizations of structural and institutional entrepreneurship proposed by Boasson (2015) can be aligned with some of Mintrom´s (2019) five strategies for policy change.

Structural entrepreneurship, according to Boasson (2015), involves actors undertaking activities designed to overcome structural obstacles, often in the absence of formal access to decision-making bodies and arenas (p. 66). Key activities for these actors encompass networking and agenda-setting. On the other hand, institutional entrepreneurship, as defined by Boasson (2015), encompasses activities aimed at modifying people´s norms, cognitive frameworks, worldviews, or institutional logics (p. 68). These activities are typically executed by actors who perceive the current policies as flawed or ineffective.

Although Boasson´s (2015) distinction is significant, this thesis raises concerns regarding the exclusion of structural entrepreneurs from decision-making forums. It argues that structural policy entrepreneurs could possess the characteristics described by Boasson (2015), while still maintaining access to formal decision-making arenas. Furthermore, this thesis problematizes Boasson´s (2015) portrayal of institutional entrepreneurs as actors who find the current policies to be inadequate or malfunctioning. The absence of pre-existing policies in certain contexts, including the Norwegian battery strategy, complicates this portrayal.

The thesis suggests that both structural and institutional entrepreneurship could be appropriately linked to Mintrom´s (2019) strategies for policy change. The main challenge relates to identifying where Mintrom´s (2019) strategies fit within Boasson´s (2015) dichotomy of structural and institutional entrepreneurship. Therefore, one needs to look further into the specifics of the strategies, and whether these can be aligned with the entrepreneurial activities that Boasson (2015) describes as necessary for entrepreneurship to have taken place.

### *Problem Framing in Entrepreneurship*

Problem framing, according to Mintrom (2019), is instrumental in capturing the attention of individuals and groups (p. 316). Boasson (2015) also underscores framing as a critical activity within institutional entrepreneurship, further distinguishing between positive and negative framing[15]. This thesis concurs with these perspectives, identifying problem framing as an institutional entrepreneurship activity, but also noting disparities in Mintrom´s (2019) and Boasson´s (2015) approaches.

Mintrom (2019) emphasizes the need for specific attributes and skills for successful problem-framing, a prerequisite not explicitly mentioned by Boasson (2015). This thesis argues that problem framing can be effectively executed without these specific attributes and skills, however, this does not mean that skills and attributes are unimportant.

Based on this theoretical argument, one may assume that in the case of Norway´s battery strategy, a successful problem-framing exercise was carried out by policy entrepreneurs. This would have been accomplished without a strict adherence to Mintrom´s (2019) prescribed specific attributes and skills. However, these policy entrepreneurs may still have possessed certain skills and attributes that played a role in their success.

Further, this assumption suggests that these policy entrepreneurs may have used both (or either) positive and negative framing as outlined by Boasson (2015) to draw attention to the issues at hand and gain traction for the battery strategy. The combination of these tactics likely contributed to the effective institutionalization of the battery strategy in Norway.

Finally, the assumption presupposes that the effectiveness of problem framing may vary depending on the context and individuals involved, even if specific skills or attributes are not

[15] Positive framing: acts directed at presenting specific policy outcomes as good, desirable, legitimate or appropriate.
Negative framing: active de-legitimizing of existing policies and practices (Boasson, 2015, pp. 68-69).

expressly present or utilized.

### *The Importance of Networking*

Both Mintrom (2019) and Boasson (2015) promote the centrality of networking in policy change or implementation. Boasson (2015) associates networking with structural entrepreneurship. However, the thesis challenges this association, primarily due to Boasson´s (2015) assertion that structural entrepreneurs lack access to formal decision-making arenas. This thesis contends that networking is a crucial means for these entrepreneurs to gain information about and access to decision-making forums and arenas. However, this is not a necessary condition that policy entrepreneurs already have access to decision-making arenas.

Based on this, one may assume that within the case of the Norwegian battery strategy, policy entrepreneurs utilized networking as a vital tool to access decision-making arenas, even if they did not have direct access initially. This indicates a crucial role of networking in not just policy change or implementation but also in navigating the structural limitations that policy entrepreneurs might face.

The second assumption one may draw from this is that the use of networking by these policy entrepreneurs went beyond traditional views of structural entrepreneurship as defined by Boasson (2015). Instead of being merely a consequence of a lack of access to formal decision-making arenas, this was a critical strategic choice made by policy entrepreneurs to influence and shape the emergence of the Norwegian battery strategy, networking was actively used to bridge the gap and influence the decision-making process.

Lastly, one can assume that the success of the Norwegian battery strategy depended significantly on the extent to which policy entrepreneurs could exploit their networks. This could be to gain insight, resources, or support, emphasizing the crucial role of networking in policy entrepreneurship.

### *Collaboration with Advocacy Coalitions*

Sabatier (1988) and Mintrom (2019) highlight the importance of collaborating with advocacy coalitions in policy entrepreneurship. This strategy, akin to networking and therefore associated with structural entrepreneurship, involves collaboration with diverse individuals

sharing a common belief system. The size of the coalition according to Mintrom (2019), significantly affects the development of support for a proposal.

This thesis argues that working and collaborating with an advocacy coalition can be placed as a strategy within structural entrepreneurship, also because it is akin to networking. One could also make a similar argument related to networks as was made regarding policy entrepreneurs´ access to decision-making arenas.

Based on this, one can assume that policy entrepreneurs effectively collaborated with advocacy coalitions to gather support and influence policy decisions. This collaboration would have been vital to overcoming potential limitations in access to decision-making arenas.

Another assumption could be that the size of these advocacy coalitions significantly influenced the development and acceptance of the battery strategy, echoing Mintrom´s (2019) belief. The larger the coalition, the greater its potential influence and capacity to garner support for the proposal.

It can also be assumed that, in this case, collaboration with advocacy coalitions served not just as a mechanism for network expansion but also as a strategic approach to structural entrepreneurship. This strategy might have helped policy entrepreneurs strengthen their positions and navigate the structural aspects of the policy-making process more effectively.

Finally, it can be assumed that the advocacy coalitions consisted of policy entrepreneurs who shared a common belief system about the importance and value of the battery strategy. This shared belief would have been instrumental in promoting policy change and fostering a supportive environment for the battery strategy.

### *The Role of Leading by Example in Entrepreneurship*

Mintrom (2019) highlights “leading by example” as a key strategy employed by policy entrepreneurs to reduce perceived risk among decision-makers (p. 318). While this strategy does not fit neatly into the categories of structural or institutional entrepreneurship as delineated by Boasson (2015), it is critical due to its association with a broader commitment to the cause.

In high-risk industrial fields, such as cell manufacturing, the impact of this strategy is particularly pronounced. While Boasson´s (2015) theoretical framework does not incorporate “leading by example” in either structural or institutional entrepreneurship, this thesis argues

that the theoretical argument made by Boasson (2015) is not sufficient enough to draw conclusions on where this activity belongs in her framework. It could be argued that it could be both structural and institutional. It could be institutional in the way that policy entrepreneurs leverage this strategy to sway decision-makers perspectives, effectively mitigating the perceived risk associated with the policy issue. It could also be argued that this is a part of structural entrepreneurship due to the fact that policy entrepreneurs can use this in an agenda-setting context.

Based on this, it can be assumed that within the context of the Norwegian battery strategy, policy entrepreneurs adopted the "leading by example" strategy. This approach helped reduce the perceived risks among decision-makers and was pivotal in fostering a wider commitment towards the battery strategy. This strategy may have had an even more substantial impact due to the high-risk nature of the industrial field, especially in regard to cell manufacturing.

The second assumption is that "leading by example" could have been employed as both a structural and institutional entrepreneurial strategy by policy entrepreneurs. This view challenges Boasson´s (2015) theoretical argument, which does not explicitly place this activity within either category. In an institutional context, this strategy might have been used to change decision-makers' perspectives and lessen the perceived risk tied to the policy. On the other hand, it may have served a structural function by being used to set the policy agenda.
Finally, a third assumption is that the theoretical delineations proposed by Boasson (2015) might not encompass all strategies employed by policy entrepreneurs, suggesting the need for broader or more flexible categorizations. The case of the Norwegian battery strategy implies that some strategies may straddle or transcend these theoretical boundaries.

### *The Significance of Scaling Up Change Processes in Entrepreneurship*

In the context of scaling up change processes, policy entrepreneurs´ involvement and achievements in other policy areas play a vital role. This engagement can be construed as both a structural and institutional activity. Drawing upon Boasson´s (2015) argument, if policy entrepreneurs leverage their successful influence over other policy areas to gain access to new decision-making arenas or to set the agenda, this could be categorized as a structural entrepreneurial activity. On the other hand, using past successes to persuade decision-makers aligns with the approach of an institutional entrepreneur. As such, one could argue that the act

of scaling up change processes straddles the realms of both structural and institutional entrepreneurship.

One assumption that derives from this argument could be that in the case of the Norwegian battery strategy, policy entrepreneurs utilized their previous involvement and achievements in other policy areas to scale up the change process. This success in other domains might have strengthened their influence over the decision-making process, both in terms of access to decision-making arenas and persuasion of key stakeholders.

A second assumption could be that the scaling-up process is a multidimensional activity that traverses the boundaries of structural and institutional entrepreneurship as categorized by Boasson (2015). Thus, policy entrepreneurs, in this case, might have displayed characteristics of both types of entrepreneurship.

Building on this, a third assumption might be that the theoretical categories of structural and institutional entrepreneurship may not be sufficient to capture the complexity of policy entrepreneurship activities, especially when it comes to scaling up change processes. This implies the need for broader or more flexible theoretical models in understanding policy entrepreneurship.

Finally, it can be assumed that policy entrepreneurs involved in the development of Norway´s battery strategy have successfully leveraged their past accomplishments in other policy areas to build credibility and influence, effectively facilitating the scaling up of the change process. This highlights the strategic use of past achievements as a critical tool for policy entrepreneurs.

### *An in-depth exploration of commitment types*

As mentioned earlier, Boasson & Wettestad (2014) distinguishes between to commitment types – “tortoise” and “carpe diem”, and this distinction serves as a compelling lens to understand policy development and implementation. These commitment types are not rigid characterizations, but rather, they reflect issue-specific approaches adopted by policy entrepreneurs. Tortoise policy entrepreneurs are characterized by their steady, long-term commitment to a specific policy perspective or solution. This consistent, prolonged involvement allows them to frame situations effectively and influence changes in policy development over time. On the other hand, carpe diem policy entrepreneurs, with their short-

term approach and shallower commitment, are adept at seizing policy windows as they open, exploiting opportunities for immediate impact rather than creating these windows themselves.

By understanding both types of policy entrepreneurs, one can gain nuanced insights into the dynamics of policy change and implementation. For instance, in the context of Norway´s battery strategy, it is plausible that a combination of both tortoise and carpe diem policy entrepreneurs has contributed to its emergence and development. Tortoise entrepreneurs might have been working persistently over a long period of time to advance the strategic interest of battery technology, while carpe diem entrepreneurs might have seized the opportune moments to push for specific policy actions or interventions.

However, the existing literature on policy entrepreneurship, while extensive, may not adequately capture the nuances of these commitment types, especially in the context of battery policies. The field could benefit from more focused, specific studies that examine the interplay of tortoise and carpe diem entrepreneurs, particularly in underexplored contexts such as Norway. Understanding how these commitment types of influence policy outcomes could provide invaluable insights into the mechanisms of policy development and execution in such areas. This thesis aims to contribute to filling these gaps and enhancing our understanding of policy entrepreneurship within the realm of Norwegian battery policymaking.

### *Additional Theoretical Considerations*

This thesis has delved into the multifaceted nature of policy entrepreneurship theories and the definition of a policy entrepreneur itself. In the introductory section, one defined policy entrepreneurs as individuals who could be inside or outside government, occupying either elected or appointed roles, and involved in interest or research organizations (Kingdon, 1984, p. 122).

The thesis also highlighted the distinction between structural and institutional entrepreneurs, focusing on the strategies they employ. However, Green (2017) argued for the necessity of distinguishing the entrepreneur from their employed strategies to enable the comparison of outcomes over time. This perspective warrants consideration, primarily because it adds another layer of complexity to defining policy entrepreneurs and identifying them.

Green´s (2017) definition challenges the identification approach employed in this thesis, which uses the strategies of entrepreneurs as a primary means of recognizing them. Mintrom´s (2019) strategies assume that policy entrepreneurs possess certain attributes and skills to implement the strategies they choose effectively. These nuances are crucial to understanding, as they may present potential limitations to the theoretical approach selected in this thesis.

Another point of contention is whether the theory adequately captures the intricacies of policy entrepreneurship behavior or not. In public policy processes, certain actors might have predetermined roles based on their existing role definitions. For instance, according to Boasson & Huitema (2017), actors within the public policy apparatus fulfilling its usual functions might not necessarily be classified as policy entrepreneurs. Is this evidence that the theory accommodates the scenario where the public policy apparatus enables other policy entrepreneurs to use strategies to influence a particular policy issue? This subtle distinction offers an interesting angle for future research, potentially informing the development of frameworks for entrepreneurial mechanisms within the public policy apparatus.

## 3.3 Theoretical framework

The theoretical framework of this study combines insights from Mintrom (2019), Boasson (2015), and Boasson and Wettestad (2014), offering a comprehensive view of policy entrepreneurship in the specific context of the Norwegian battery strategy process. This approach acknowledges the multiplicity of roles and strategies employed by policy entrepreneurs and the nuances of their commitment to the policy issues at hand.
This framework recognizes that policy entrepreneurs, equipped with various strategies, navigate the policy environment using skills and attributes that may extend beyond Mintrom´s (2019) prescribed specifics. Importantly, it also emphasizes networking, problem framing, the utilization of prior achievements in other policy areas, and leading by example as crucial aspects of both structural and institutional entrepreneurial activities.

Simultaneously, the framework integrates Boasson and Wettestad´s (2014) concept of the tortoise and carpe diem commitment types. This differentiation provides an issue-specific lens to understand how policy entrepreneurs, depending on their commitment type, may operate at different paces and with varying levels of engagement.

The purpose of the study is therefore twofold: First, to apply this integrated theoretical framework to identify and understand the roles of policy entrepreneurs in the case of the Norwegian battery strategy process. The study will examine the strategies they have employed to be able to influence the policy process and based on this decide whether they have been policy entrepreneurs in this case or not.

Secondly, the study seeks to ascertain the commitment type of these policy entrepreneurs – whether they have operated as tortoises with a long-term, steady commitment to the issue, or as carpe diem actors who exploit short-term policy windows. This commitment type analysis will provide an additional depth to our understanding of the role and impact of policy entrepreneurs in the specific context of the Norwegian battery policy.

Now that the theoretical discourse has been presented, the next step is to construct a theoretical framework. The framework will serve two forms of entrepreneurial activity: structural and institutional entrepreneurship. Still, it is important to remember that this thesis incorporates the strategies Mintrom (2019) proposed, keeping in mind the previously discussed complexities. Additionally, this thesis introduces an extra layer of analysis by including the two commitment types: “tortoise” and “carpe diem”.

In the initial phase of this study, it is essential to identify the policy entrepreneurs who have played significant roles in the Norwegian battery strategy policy process. As such, an illustrative matrix (Table 1) has been constructed to encapsulate the various actors and the strategic approaches they have adopted.

**Table 1a.** Identifying the policy entrepreneurs

| | Actor 1 | Actor 2 | Actor 3 | Actor 4 | Actor 5 | Actor 6 | Actor 7 | Actor 8 | Actor 9 | Actor 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Networking | | | | | | | | | | |
| Problem framing | | | | | | | | | | |
| Advocacy coalitions | | | | | | | | | | |
| Leading by example | | | | | | | | | | |
| Scaling up change processes | | | | | | | | | | |

Table 1 will subsequently be populated in Chapter 6 with markers corresponding to each actor´s engagement with the specified strategies. This categorization will be based on data gathered from the semi-structured interviews, supplemented by an extensive review of pertinent information collected throughout this thesis.

This approach will afford us a comparative perspective on the level of involvement of different actors. It allows for discerning which actors have engaged with a broad spectrum of strategies, potentially indicating a high degree of involvement in the policy process. However, it is worth noting that the quantity of strategies employed by a particular actor does not necessarily determine their influence or efficacy. The dynamics of policy entrepreneurship and the specificities of the policy issue at hand may create a context where the impact of one strategy outweighs the others. Consequently, the matrix should be interpreted with a nuanced understanding of the complexity of policy entrepreneurship in the Norwegian battery policy process.

Building on the initial identification and classification of policy entrepreneurs and their strategies, the study seeks to further delineate the type of entrepreneurs and commitment levels exhibited by these actors in the Norwegian battery strategy policy process.
To facilitate this, Table 2 has been devised, providing a matrix that intersects the two types of entrepreneurship – institutional and structural – with the commitment levels – "Carpe Diem" and "Tortoise".

**Table 2a**: Policy Entrepreneurs; Commitment and Type of Entrepreneurship.

| | **Institutional entrepreneurship** | **Structural entrepreneurship** |
|---|---|---|
| **Carpe Diem** | | |
| **Tortoises** | | |

In the subsequent analysis, policy entrepreneurs will be placed within this matrix based on the evidence gathered from the data sources. This methodological approach serves two key purposes. Firstly, it allows for nuanced analysis and comparison of policy entrepreneurship activities, enhancing our understanding of their respective roles and contributions.

Secondly, this framework captures the dynamism inherent in policy entrepreneurship by incorporating the two distinct commitment types. By doing so, the study acknowledges that policy entrepreneurs may adapt their approaches based on the specific policy context, thereby contributing to a more nuanced and complete understanding of the policy entrepreneurship landscape in the case of the Norwegian battery strategy.

# 4.0 Methodology

In this chapter, one aims to showcase the methodology that underpins this master's thesis research question. As the famous political scientist, Layna Mosley aptly observed, "Interviews are an important, an often-essential tool for making sense of political phenomena" (2013, p. 2).

Building on this, the research design employed in this study harnesses the power of method triangulation, which combines semi-structured interviews, document analysis, and process tracing to generate a robust understanding of the political phenomena under investigation. By adopting this multi-method approach, the thesis aims to mitigate potential biases and enhance the validity and reliability of our findings.

This thesis begins by elucidating the rationale behind the choice of method triangulation and how it facilitates a comprehensive analysis of the research question at hand. This is followed by a detailed discussion of the individual methods used: semi-structured interviews, document analysis, and process tracing. We will elaborate on the process of data collection, the selection criteria for participants and documents, and the analytical techniques employed to make sense of the gathered data.

Lastly, this thesis addresses the methodological implications of this thesis, reflecting on the strengths and limitations of the chosen methods, as well as the ethical considerations that have guided the research process. This chapter thus serves as a roadmap for understanding the methodological foundation of our study, providing the necessary context for interpreting the findings presented in the subsequent chapters.

## 4.1 Data and method

The purpose of this thesis is to answer the research question, which focuses on to what extent policy entrepreneurship theories can explain why we have a Norwegian battery strategy. To do so, there was a need to get an overview of the actors present in the policy process.

Related to this thesis, I invited a total of 19 people from the public policy apparatus, actors in the battery industry, politicians, and the Ministry. Of these, 10 accepted the request to participate in the study. The participants are representatives from the public policy apparatus

(3), the ministry (1), actors in the Norwegian battery industry (5), and actors in a European context (1). What they all have in common is that they have experience from policy processes, in different formats and stakeholder capacities.

### *Semi-structured interviews*

The use of semi-structured interviews as a research method has gained popularity in recent years, particularly in cases where there is a lack of publicly available information on the topic of interest. As noted by Beyes et al. (2014), semi-structured interviews can be a valuable tool for collecting information on informal interactions and processes that may not be documented in other sources (p. 176). This is the case for this thesis, which focuses on the development of the Norwegian battery policy and the Norwegian Battery Strategy. Due to the limited availability of information on the policy process, semi-structured interviews were deemed an appropriate method for gathering relevant data.

Semi-structured interviews are a type of qualitative research method that allows for specific conversations with interviewees while still allowing for a degree of flexibility in the conversation (Fylan, 2005, p. 65). In this case, one used semi-structured interviews as the primary method for gathering information related to the policy process. The method involves having a set of questions that the interviewer asks while allowing for the conversation to flow freely and for new topics to emerge during the interview. Semi-structured interviews were particularly useful in this case as they allowed for a more in-depth examination of the policy process, including events and behaviors (Schaeffer & Presser, 2003).

The interviewees for this study were chosen based on their expertise in the field of batteries, and that they had been involved in the policy process in some way or another. As such, some of the interviewees could be classified as experts in the area. When interviewing experts, it is important to recognize the possibilities for some challenges to occur, especially related to difference in age and the possibility of interviewees not being entirely forthcoming with information (Beyes et al., 2014, p. 178). To mitigate these risks, the questions asked in the interviews were not of a particularly sensitive nature, reducing the likelihood of interviewees feeling the need to justify their actions. Additionally, the interviewees were chosen from a variety of professional backgrounds, including those employed in battery companies, the public policy apparatus, interest organizations and the government, ensuring a diverse range of perspectives and minimizing potential biases.

The questionnaires used in the semi-structured interviews were adapted to fit the interviewee´s background and sector of employment, as recommended by Martin (2013, p. 117), who suggests focusing on questions based on behavior rather than attitudes. For instance, the questions asked to an interviewee who works in a battery company would differ from those asked to someone that works in the public policy apparatus. However, there have been certain topics that have stayed consistent regardless of employment sector. To ensure consistency and reduce potential interviewer bias, there were therefore three different questionnaires - one for private battery companies, one for the public policy apparatus, and one for interest organizations. This method of adapting questions to the interviewee´s background and sector of employment was helpful in ensuring that the data obtained was relevant and useful.

In total, ten interviews were conducted with individuals from a range of sectors and organizations. The interviewees all held positions that could be described as leading positions, meaning that they were extremely busy and had limited time for interviews. This presented a potential challenge in terms of obtaining high-quality data, as some interviews had to be conducted hastily due to the interviewee´s schedule. However, this was not found to be a significant issue as the questions asked were not particularly sensitive, and the data obtained was still deemed reliable and valid.

In conclusion, the use of semi-structured interviews as a research method was a useful approach for examining the development of the Norwegian battery policy and the Norwegian battery strategy. While there were potential challenges associated with interviewing experts, such as a potential lack of sincerity, these risks were mitigated by selecting a diverse range of interviewees from a range of sectors.

## 4.3 Snowball sampling

Snowball sampling is a widely used technique in qualitative research, particularly when studying hard-to-reach or hidden populations. This nonprobability sampling method leverages the social networks of initial informants to identify and recruit additional participants for the study. In this section, one provides a more in-depth explanation of snowball sampling and discusses its advantages, limitations, and application in the context of this thesis.

Snowball sampling begins with the identification of a small number of initial informants who possess the desired characteristics or knowledge relevant to the research question. These informants are then asked to provide referrals to other potential participants who meet the study´s criteria (Noy, 2006, p. 330). This process is iterative, with each new informant potentially leading to further referrals, thus creating a "snowball" effect. As the sample size grows, the researcher gains access to a larger and more diverse pool of informants.

The success of snowball sampling depends on the quality of the relationships between the researcher and the informants, as well as between the informants themselves. Trust and rapport play a crucial role in obtaining referrals, as informants are more likely to recommend others if they have a positive experience during the interviews (Noy, 2006, p. 334). This highlights the importance of effective communication and interpersonal skills in conducting snowball sampling.

The advantages of snowball sampling include its cost-effectiveness, ease of implementation, and ability to reach hidden or hard-to-reach populations. Additionally, it can help overcome potential barriers to entry, such as gaining access to informants in exclusive communities. However, snowball sampling also has its limitations. The technique can result in a biased sample, as informants may be more likely to refer individuals within their social network who share a similar perspective or experience. This can limit the diversity and representativeness of the sample, potentially affecting the generalizability of the findings.
In the context of this thesis, snowball sampling was applied to identify and recruit potential interviewees involved in the development of a Norwegian battery policy. Given the researcher´s professional background and connections, a "massive snowball"[16] was quickly generated, leading to a substantial number of recommendations and subsequent interviews.

This approach enabled the researcher to efficiently access a wide range of informants and gather rich data on the topic at hand. Nonetheless, it is important to be aware of the potential biases and limitations inherent in snowball sampling and consider how they may have influenced the study´s findings.
In conclusion, snowball sampling is a valuable tool for qualitative research, particularly when investigating hard-to-reach populations or leveraging existing social networks. By

[16] Because of the job position the researcher possesses, one received a high number of suggested interviewees early in the process. In addition, the researcher also had knowledge on who could be relevant for this thesis.

understanding its advantages, limitations, and potential biases, researchers can effectively employ this technique to gather valuable insights and inform their studies.

## 4.4 Process-tracing

Process tracing is an important methodological tool in political science, particularly in research for studies, as it enables researchers to investigate causal processes and mechanisms underlying specific outcomes systematically. In this chapter, we delve into the application of process tracing in the context of this thesis, which seeks to understand the development of a Norwegian battery policy and the role of policy entrepreneurship.

Process tracing, as defined by scholars such as Beach (2017) and Mahoney (2012), is a method used for evaluating hypotheses about the causes of a specific outcome within case studies. By providing an in-depth analysis of the sequence of events, decisions, and actions that transpired in a given case, process tracing allows for a more nuanced understanding of the causal relationships at play. This method is particularly well-suited for qualitative case study research, as it facilitates the drawing of causal inferences based on empirical evidence (George & Bennet, 2005; Collier et al., 2010).

In this thesis, we apply process tracing to examine the development of the Norwegian battery strategy, tracing the key events and policy decisions that have shaped its growth. By scrutinizing the process through a theoretical lens, the researcher aims to test existing theories about the causes and outcomes related to this particular case. This approach will provide valuable insights into the associations between various factors and their contributions to policy evolution.

To effectively implement process tracing in this study, we will follow six steps:

1. *Identifying the outcome of interest:* The primary outcome of interest in this thesis is the development of a Norwegian battery policy, including its origins, major milestones, and current state.
2. *Formulating hypotheses:* Based on a review of relevant literature and theoretical frameworks, we will formulate hypotheses about the potential causal mechanisms and factors that may have influenced the development of the battery strategy.

3. *Collecting and analyzing data:* We will gather and analyze data related to the case, including documents, semi-structured interviews, and other relevant sources. This data will provide evidence to either support or refute our hypotheses.
4. *Examining causal mechanisms:* By tracing the sequence of events and decisions in the development of the battery strategy, we will seek to identify the causal mechanisms at work. This will involve assessing the role of various actors, the influence of political factors, and the impact of policy decisions.
5. *Drawing causal inferences:* Based on the evidence collected, we will make causal inferences about the factors that have contributed to the development of the Norwegian battery strategy. This will involve evaluating the plausibility of each hypothesis and identifying the most compelling explanations for the observed outcome.
6. *Assessing the generalizability of findings:* After drawing conclusions about the causal mechanisms at play in the policy process regarding the Norwegian battery strategy, we will consider the potential applicability of these findings to other cases and contexts, as well as their implications for broader theories and debates in political science.

By employing process tracing, this thesis attempts to provide a comprehensive and rigorous analysis of the development of the Norwegian battery strategy. This methodological approach will not only enhance our understanding of the case at hand, but also contribute to broader discussions on the role of policy actors, and context in shaping industry dynamics in the field of political science.

## 4.5 Methodological challenges

To adequately address the limitations of this thesis, it is crucial to address ethical considerations and other methodological constraints that may have influenced the study's outcomes.

On main challenge of this thesis related to the researcher´s role as a master's student at the University of Oslo and an employee at Innovation Norway, specifically in the Invest in Norway department, raises potential concerns. While the researcher's professional background provided crucial access to relevant networks and a general understanding of the dynamics between different actors, it also posed both ethical and methodological challenges. The close relationship with one of the interviewees and prior interactions with four others in a professional context could have influenced the objectivity and reliability of the collected data.

To mitigate these concerns, it is important to emphasize that the interviewees were neither involved in a research capacity nor fully informed about the details of this thesis.
Another challenge stems from the dynamic nature of the battery industry and its policy landscape, which made it difficult to formulate specific interview questions that would remain relevant in the context of continuously changing situations. Moreover, the absence of official records on the sequence of events further complicated the data collection process, as the study relied solely on the interviewees' accounts.

The researcher´s involvement professionally might also lead to criticism that the thesis could advertently be influenced by extraneous knowledge not directly related to the research question. An additional challenge was managing personal interest in the industrial field, which might have diverted attention towards the technological aspects of batteries rather than policy-related matters. This advertent bias could be attributed to limited experience in interview setting and a strong interest in the industrial field.

Variations in interview durations could also affect the comparability of data. While most interviews lasted 55-60 minutes, two were significantly shorter, around 35 minutes. Only one interviewee did not make it through the entire interview guide due to time limitations, which may be a critique of the interviewers time-managenent and lack of experience within conducting semi-structured interviews.

In conclusion, this chapter has shed light on the ethical and methodological limitations that arose during the study, acknowledging the potential biases and constraints inherent in the chosen methodology. By being transparent about these challenges, the study seeks to encourage further research that can build upon and refine the insights gained from this thesis.

# 5.0 Empirical findings

This chapter presents the empirical findings of the study on the development of the Norwegian Battery Strategy. The previous chapters have discussed the theoretical framework and the research design and methodology used to investigate the research questions. This chapter presents the data material that will be used in the analysis, providing a comprehensive account of the research findings.

The data were collected using primarily semi-structured interviews, in addition to document analysis and process tracing. The findings were validated through the triangulating of methods, in addition to comparing the claims made by the interviewees to other methods and material.

The empirical findings of this study contribute to the existing literature on policy entrepreneurship. It has a special focus on Norwegian policymaking processes and Norwegian climate policies. This provides insights on how Norway embraces the sudden shift in tempo related to the green shift, and whether policymaking processes have changed due to this shift. Furthermore, the findings also highlight the area for future research on Norwegian policymaking, Norwegian climate policies, and the development of new green industries, like batteries.

Overall, this chapter provides a comprehensive account of the empirical findings of the study, offering valuable insights into the research question and contributing to the knowledge base in the field of Norwegian policymaking and Norwegian climate policies.

## 5.1 The Evolution of the Norwegian Battery Industry and National Policy 2016-2022

To comprehensively understand the evolution of the Norwegian battery industry, and its political dynamics, it is essential to revisit its historical trajectory. One has already presented Norway´s history with EVs up to 2016, however, there is a need to look closer into the battery industry specifically and what has happened after 2016.

As of 2022, China´s battery cell manufacturing capacity dominated globally at 893 GWh, with Poland at a distant second at 72 GWh (Bhutada, 2023). The European Union´s aspiration to

establish self-sufficiency within the battery value chain has resulted in a slew of policy shifts, both at national and international levels, influencing the Norwegian landscape considerably.

The beginning of the Norwegian battery industry can be traced back to 2016. The establishment of Eyde Battery, a joint venture of Glencore Nikkelverk, Five End, Elkem, and the Eyde cluster[17], marked the commencement of a concentrated effort towards battery production (Interviewee 2, 2023; Interviewee 3, 2023)[18]. Alongside, the birth of Beyonder, a cell manufacturer, signified an emerging interest in battery technology, further fuelled by partnerships between public policy and industry actors (Interviewee 6, 2023; Interviewee 4, 2023).

The narrative took a pivotal turn in 2018 with the establishment of Freyr. The announcement in 2019 of their plans to build a GigaArctic factory in Mo I Rana drew significant attention, indicating a shifting tide in the industry (Interviewee 3, 2023; Interviewee 6, 2023; Interviewee 9, 2023). This period also witnessed the launch of the Battman project by the Eyde cluster, Hydro, Elkem, and Glencore Nikkelverk, assessing raw material demands for the looming electrification era (Interviewee 2, 2023).

The momentum carried into 2020, a year characterized by noteworthy developments. The European Commission unveiled its Battery Regulation Framework, endorsing the "greenest, best performing, and safest batteries in the EU market" (Maroš Šefčovič, 2020). Concurrently, Norway witnessed the establishment of Morrow Batteries, announcing Arendal as the destination for their gigafactory. With Beyonder, Freyr, and Morrow, Norway positioned itself as a burgeoning hub for cell manufacturers and potential subcontractors. As one interviewee explained, cell manufacturers draw subcontractors to the same areas as the gigafactories, but it is not the other way around (Interviewee 7, 2023). This also illustrates how much attention these cell manufacturers generate. This is also pointed out by some interviewees, that we sometimes forget other companies in other parts of the value chain, and this is important to note in this thesis (Interviewee 10, 2023; Interviewee 9, 2023; Interviewee 8, 2023).
Continuing on into the election campaigns of 2020 and 2021, this underscored the industry´s mounting significance. Major political parties, namely Høyre and Arbeiderpartiet, exhibited an

[17] The Eyde cluster is supposed to ensure growth and competitive advantages within the Norwegian process industry (https://www.eydecluster.com/no/om-eyde-klyngen/)
[18] Important to note that both Interviewees 2 and 3 have work-related history from the Eyde cluster.

increasing interest in cell manufacturers, with Freyr and Morrow reporting a surge in attention (Interviewee 1, 2023; Interviewee 7, 2023).

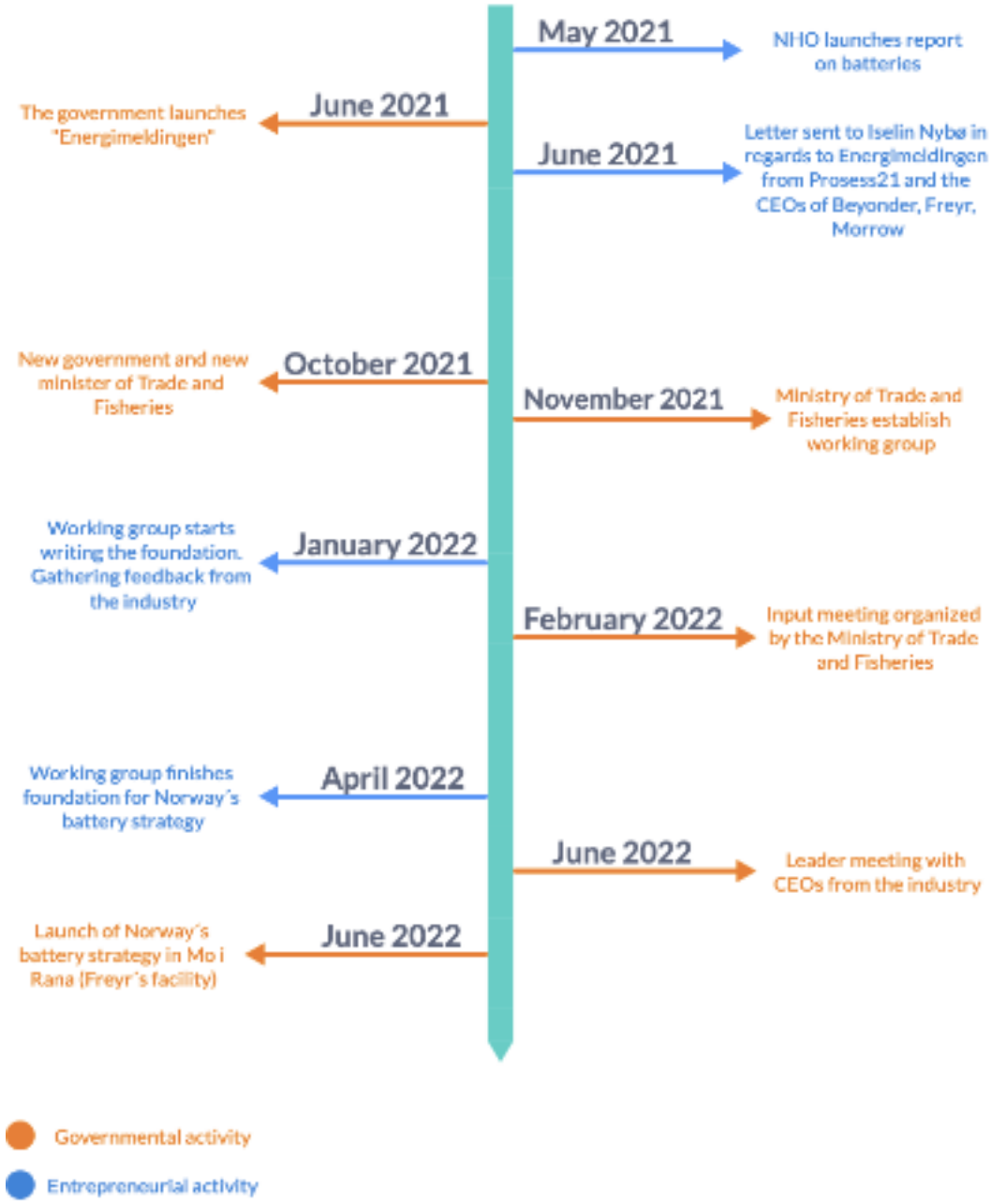
However, June 2021 was marked by the release of "Energimeldingen", which overlooked the battery industry, despite Prosess21´s main and expert reports advocating for investments in the battery industry. This prompted a collective response from the CEOs of Freyr, Morrow, and Beyonder, along with Prosess21, urging the then Minister of Trade and Fisheries, to conceive a Norwegian battery strategy (Prosess21, 16.06.2021; Interviewee 2, 2023).

The subsequent political shift with the election of Arbeiderpartiet in October 2021, introduced Jan Christian Vestre as the new minister of Trade and Fisheries. A suggestion from an external representative[19] pointed out to Vestre that developing a Norwegian battery strategy would be relatively straightforward with the already available essential elements (Interviewee 6, 2023; Interviewee 9, 2023; Interviewee 2, 2023; Interviewee, 3).

When pinpointing the commencement of the policy process specifically targeting the formulation of a Norwegian battery strategy, the interviewees agreed on a more recent period, although some mention Frederic Hauge and Bellona and the start of the 2000s as an early kickstart of the Norwegian battery industry (Interviewee 5, 2023; Interviewee 7, 2023). Specifically tied to the policy process, most marked November 2021 or the initial months of 2022 as the first mention of a Norwegian battery strategy (Interviewee 1, 2023; Interviewee 2, 2023; Interviewee 6, 2023; Interviewee 7, 2023; Interviewee 10, 2023). This timeframe also correlates with Figure 1 (shown below), illustrating that the government´s involvement with the Norwegian battery strategy began late in 2021, suggesting a policy process kick-started by the government transition in October and concluded in June 2022.

**Figure 1**. Timeline: An overview of International Battery Policy, Governmental Activity, and Entrepreneurial Activity.

[19] This representative derives from an organization called European Battery Alliance which works under the mandate of the EU Commission.




Additionally, the period leading up to the battery strategy´s announcement in June 2022 was marked by heightened activity within the battery industry and among decision-makers. Soon after the political shift, a dedicated working group was formed by the Ministry of Trade and Fisheries, composed of representatives from Siva, Innovation Norway, and Prosess21, tasked with crafting the foundation for the battery strategy (Interviewee 2, 2023; Interviewee 6, 2023; Interviewee 8, 2023; Interviewee 9, 2023). Notably, the Research Council of Norway played a particularly prominent role in this effort, contributing significantly to the completion of the foundation (Interviewee 1, 2023; Interviewee 6, 2023; Interviewee 4, 2023; Interviewee 8, 2023; Interviewee 7, 2023; Interviewee 5, 2023). The group sought industry feedback on

various facets of the battery strategy, intensively working from January to April 2022 to complete the foundation (Interviewee 2, 2023; Interviewee 8, 2023; Interviewee 6, 2023). After its completion in April 2022, the Ministry of Trade and Fisheries refined and finalized the document, readying it for a June announcement (Interviewee 2, 2023; Interviewee 6, 2023; Interviewee 9, 2023; Interviewee 8, 2023).

June 14, 2022, stands as a landmark date in the history of Norway´s battery industry, marking the formal announcement of the Norwegian battery strategy. This declaration showcased the government´s commitment to supporting the industry, detailing plans and pinpointing crucial areas for growth with the help from the industry. The significance of this announcement reverberated throughout the industry, solidifying the government´s dedication to continuously develop the Norwegian battery industry. Thus, this strategic unveiling marked a crucial chapter in the ongoing development of the Norwegian battery industry and its evolving policy landscape.

## 5.2 Perspectives on Norway´s battery strategy

There exists a consensus from the interviews that indicate a general satisfaction among the interviewees with the existence of a national battery strategy in Norway. As one respondent noted, emphasizing the battery industry as a strategic investment area inherently increases its priority within the government´s purview (Interviewee 7, 2023).

However, this overarching appreciation for the strategy does not preclude constructive critique. There are concerns about the strategy´s ambiguous nature, including its perceived lack of clear goals, concrete measures, and detailed action plans (Interviewee 1, 2023; Interviewee 7, 2023; Interviewee 10, 2023). Some stakeholders worry that this lack of precision might compromise the strategy´s efficacy, and consequently, the industry´s growth trajectory. Also interesting, is that the same interviewees that point out some flaws also follow up by expressing that they are indeed pleased with having a strategy, even though it does not include specific measures (Interviewee 10, 2023; Interviewee 7, 2023; Interviewee 5, 2023).

The second critique pertains to the strategy´s apparent disregard for outlining a systematic approach to international collaborations. Stakeholders contend that this omission could constrain Norway´s ability to leverage global knowledge, adapt to international trends, and compete effectively on a global scale. It is pointed out that the government therefore should

align itself with the EU to be able to compete effectively on a global scale (Interviewee 1, 2023; Interviewee 3, 2023; Interviewee 7, 2023). Another point of view from the interviews is that one must not forget to see the correlation between the battery industry and other green industries (Interviewee 8, 2023).

Despite these criticisms, which it should be noted are limited, the Norwegian battery strategy receives commendation for providing a much-needed strategic blueprint for the industry. Respondents argue that the strategy signifies the government´s commitment to industry growth, reinforcing Norway´s standing in the European battery market and inducing a sense of stability likely to attract both domestic and international investment (Interviewee 6, 2023; Interviewee 9, 2023; Interviewee 3, 2023).

A noteworthy inference from the empirical data is the potential impact of international battery and industry policies on the Norwegian battery industry. These international regulations could either stimulate growth or pose challenges for local actors, highlighting the necessity for Norway to strategically navigate these global dynamics to optimize its competitive edge in the global battery market. Additionally, it is also emphasized that Norway needs to define what competitive advantages they now have in the global competitive arena (Interviewee 8, 2023). This observation emphasizes the crucial role of including a global perspective, reflecting on global industry trends and policy shifts, to ensure sustainable competitiveness within the global battery industry.

## 5.2 The differences in government

The shift in political leadership from Høyre (in the coalition, 2013-2021) to Arbeiderpartiet (with coalition partner Senterpartiet, post-2021) has evidently marked a turning point in the Norwegian government's approach to the battery sector. Multiple interviewees, from various backgrounds and roles, have pointed out significant differences between the two administrations, particularly highlighting the appointment of Jan Christian Vestre as the new Minister of Trade and Fisheries in October 2021.

Several informants noted that Vestre´s appointment led to a rapid shift in focus toward the battery industry. According to them, the issue of batteries swiftly climbed the governmental agenda, marking a clear departure from the previous government´s focus.

One interviewee[20] elaborated on this distinction, recounting their experience with the previous and current administrations:

> To be candid, the level of interest and involvement varied across ministries, but the last government seemed largely disinterested in the battery sector. It felt like a breath of fresh air when Vestre, who came with a background in leading a business for the land-based industry, took office. He immediately recognized the importance of our work. It is as he declared it, "This is a no-brainer". The initiative was promptly handed back to us to lay the groundwork.

The difference in attitude was reportedly so profound that it led to a palpable shift in focus on batteries, immediately following Vestre´s entry into the government. Vestre´s approach contrasted starkly with his predecessor´s. One of the interviewees remarked, "… Vestre has a completely different approach. You just feel welcome when you´re talking to him".
Vestre´s distinctive character was also noted by many, attributing his forward-thinking and rapid-action mindset to his leadership style. One of the interviewees stated:

> … Vestre´s persona stands out. He doesn´t care for the drawn-out process of strategizing over the years. He´d rather be quick to engage, preferring to be on the same side as the industry. He initiated a very open dialogue, inviting key industry players to discuss and collaborate. The atmosphere was truly Norwegian, with five ministers and ten industry leaders discussing using first names, being transparent about their expectations and needs.

Beyond Vestre´s immediate impact, interviewees noticed a broader shift in the governmental approach with the transition of power. An interviewee pointed out a symbolic transition, recalling their annoyance with former Prime Minister Erna Solberg´s New Year´s speech. They felt frustrated that Solberg emphasized offshore wind, hydrogen, and CCS while ignoring the rapidly growing battery industry.

[20] Also important to note is the reason why one is not referring to sources in this section, is due to to the fact that one is not interested in elaborating on individuals political opinions in regard to where they place themselves on a left-right political scale, but rather establishing and elaborating on the nuances the interviewees from a range of sectors have noticed in regard to the difference in governments.

Conversely, the current Prime Minister Støre´s New Year´s speech incorporated batteries into the narrative, indicating a greater recognition of their role in the green transition. This change served as a symbolic marker of a more inclusive view of the green transition that included batteries as a relevant industrial field.

In sum, the perspectives shared by the interviewees underscore the impact of the governmental transition on shaping Norway´s battery strategy and placing batteries firmly on the agenda of industrial fields contributing to the green transition.

## 5.3. The key actors

The central role of key actors in the formation of Norway´s battery strategy is a focal theme brought to light during the interviews. This section presents answers from the interviewees regarding whom they might think are key actors in the policy process. This way, one creates a clear and well-structured overview of these actors´ contributions to the policy process.

The interviewees were asked if they could mention some key actors that they deemed important in the policy process regarding the development of Norway´s battery strategy. Here, there was one actor that was mentioned as crucial to the policy process by almost every interviewee, and this was an individual from the Research Council of Norway (Interviewee 1, 2023; Interviewee 4, 2023; Interviewee 5, 2023; Interviewee 6, 2023; Interviewee 8, 2023; Interviewee 9, 2023; Interviewee 7, 2023, Interviewee 10, 2023). This individual works in the public policy apparatus and has long affiliations with the industry sector. Even this individual identifies her/himself as pivotal in shaping the strategy, however, not out of self-interest but rather to support the growing industry (Interviewee 2, 2023). Here, she/he illustrated their active engagement in bringing together CEOs from diverse companies, underlining that their active participation was inspired by the CEO´s enthusiastic commitment to the cause, rather than having to persuade them into participating (Interviewee 2, 2023).

Freyr and Hydro were also highlighted for their significant contribution to the process. Their presence drew substantial attention to the industry (Interviewee 3, 2023; Interviewee 5, 2023; Interviewee 9, 2023; Interviewee 1, 2023). Continuing on, Innovation Norway, despite not being a battery actor, was also recognized as a crucial actor that consolidated the industry and set the stage for essential dialogues and discussions (Interviewee 2, 2023).

Moreover, an interviewee pointed out the important balancing role of Invest in Norway, a division within Innovation Norway working with green industries. They emphasized its instrumental role in aligning the efforts of local and regional clusters like the Eyde Cluster with national, Nordic, and European initiatives (Interviewee 6, 2023). This remark showcases the intricate web of policy entrepreneurs and their collaborative efforts in the strategy´s formulation.

The Ministry of Trade and Fisheries was also identified as another key actor, with emphasis on Vestre as the minister (Interviewee 3, 2023; Interviewee 6, 2023; Interviewee 2, 2023; Interviewee 7, 2023). Vestre as a key actor is also illustrated in the previous chapter, whereas several interviewees acknowledged that there was a big change in attitudes toward the battery industry when Vestre entered office in October 2021 (Interviewee 2, 2023; Interviewee 3, 2023; Interviewee 6, 2023; Interviewee 7, 2023; Interviewee 9, 2023). The Ministry of Trade and Fisheries was noted for acknowledging the collective contributions of the above actors while emphasizing its collaborative relationship with the Research Council of Norway and the European Battery Alliance at a higher strategic level (Interviewee 9, 2023; Interviewee 6, 2023; Interviewee 5, 2023).

One respondent further highlighted the importance of the public policy apparatus in the policy development process. They accentuated the significant contribution of those working behind the scenes, in organizations like Innovation Norway, Siva, and the Research Council of Norway. They contended that these “zealots” – individuals passionately dedicated to the cause and persistently working towards the achievement of the goal – are instrumental in facilitating effective policy processes, even though their contribution might remain unseen and unheard.

In sum, the empirical evidence reveals an intriguing and complex array of key actors, each contributing uniquely to the process of shaping Norway´s national battery strategy. Their collective effort indicates a multifaceted and collaborative approach toward policy formulation.

# 6.0 Analysis

This chapter is dedicated to the analysis of the empirical findings, it will delve into the emergence of Norway's battery strategy. It will present the results identified through multiple research methods: semi-structured interviews, document analysis, and process tracing. These methods, when combined, offer a robust mechanism for understanding the multifaceted nature of the policy dynamics at play within this industry. In addition to discussing the findings, this chapter will also seek to contextualize them within the theoretical framework established in the preceding chapters.

The theoretical framework, informed by the works of Mintrom (2019), Boasson (2015), and Boasson and Wettestad (2014), provides the conceptual basis for this analysis. It centers around the roles of policy entrepreneurs, their strategic choices, and the type of commitment they exhibit in influencing policy direction. Moreover, it also highlights the dual aspect of entrepreneurship in the policy-making process, namely institutional and strategic entrepreneurship.

Policy entrepreneurs, as per Mintrom's (2019) characterization, are individuals or organizations that identify and exploit opportunities to influence policy outcomes. Their strategies, as well as the type of commitment they exhibit, play a crucial role in shaping policy trajectories. In this context, this chapter will seek to identify the policy entrepreneurs within the policy process regarding the development of the Norwegian battery strategy and analyze their strategies.

Building upon Boasson's (2015) distinction between institutional and strategic entrepreneurship, this chapter will also explore whether the policy entrepreneurs within the Norwegian battery industry can be categorized into either of these types. This will provide insights into the methods and approaches employed by these entrepreneurs, shedding light on how they navigate the complex policy landscape.

Lastly, the analysis will also investigate the type of commitment exhibited by these policy entrepreneurs, based on Boasson and Wettestad's (2014) classification of 'carpe diem' and 'tortoise'. This exploration will underscore the persistence and determination of these entrepreneurs and how these qualities translate into policy outcomes.

Thus, the structure of this chapter will be threefold: (1) identifying the policy entrepreneurs, and (2) examining the alignment of the case with the theoretical framework. This multi-

dimensional approach will ensure a comprehensive exploration of the Norwegian battery industry's policy landscape, revealing the underlying dynamics and mechanisms that have shaped its evolution from 2016 to 2022.

Through this analysis, this thesis aims to contribute to a more profound understanding of the Norwegian battery industry's policy landscape. By analyzing empirical findings against the theoretical framework, it seeks to generate insights that are not only relevant for understanding the past and present dynamics of this industry but also for charting its future course. Furthermore, it hopes to contribute to the broader theoretical discourse on policy entrepreneurship, institutional and strategic entrepreneurship, and the role of commitment in shaping policy.

## 6.2 The policy entrepreneurs

In the investigation of the policy process surrounding Norway´s battery industry, semi-structured interviews in addition to document analysis have identified key policy entrepreneurs and the strategies they employed to influence policy implementation. These actors, their strategies, and the sectors they represent are summarized in Table 2, offering a framework that illustrates the strategies deployed by each actor during the policy process[21].

**Table 1b.** Overview over Policy Entrepreneur Strategies used in the policy process regarding the development of the Norwegian battery strategy (self-made).

[21] These actors reflect the interviewees, other actors may have been involved, but due to the limitations related to this thesis, there was a need to limit the amount of actors to a certain number. Because one has gained detailed insights into these specific actors, one chose to focus on these in this thesis.

| | Freyr | Battery Norway | Reseach council of Norway | European Battery Alliance | Innovation Norway | Morrow Batteries | BEBA | Siva | Ministry of Trade and Fisheries | Hydro |
|---|---|---|---|---|---|---|---|---|---|---|
| Networking | X | X | X | X | X | X | X | X | X | X |
| Problem framing | | X | X | X | | | X | | | X |
| Advocacy coalitions | X | X | X | | X | X | | | X | X |
| Leading by example | X | | X | X | | X | | | | |
| Scaling up change processes | X | | X | X | | X | | | | X |

This framework elucidates several key points. All entities have used some of the strategies, and some have used more than others. This indicates that some have been more involved than others in multiple areas tied to policy affection. It is also important to note that the strategies employed by these actors can be influenced by their sectorial affiliation. For instance, the Ministry of Trade and Fisheries, being responsible for leading the policy work, along with Innovation Norway and Siva, operating under mandates from the ministry, may have adopted different strategies compared to the other actors.

This chapter aims to explain the involvement of these actors in the Norwegian battery strategy and the application of Mintrom´s (2019) and Boasson´s (2015) strategies and entrepreneurial activities in this context. Further, it was observed that some policy entrepreneurs exerted greater influence on the policy work than others.

In this regard, the Research Council of Norway was highlighted as an important actor regarding the policy work. Additionally, this is highlighted by all interviewees and further supported by Table 2 and working group documents, who emerges as a significant policy entrepreneur in this case.

Several other policy entrepreneurs were noted as important contributors to the policy process. Albeit these were deemed less critical to the speed at which the policy was implemented and created. Some of these actors became involved only after the policy process was initiated, while others expressed that the battery strategy, due to its general nature and lack of significant incentives, did not meet their expectations (Freyr, 2023; Morrow, 2023). Despite these concerns, the actors still employed strategies aimed at influencing the policy, thereby classifying them as policy entrepreneurs in this case.

The varying degree of commitment and involvement of these policy entrepreneurs in the policy process necessitates a more nuanced categorization. Table 2 provides a classification of these policy entrepreneurs based on their commitment and type of entrepreneurship tactics.

**Table 2b**: Policy Entrepreneurs; Commitment and type of entrepreneurship tactics.

| | **Institutional Entrepreneurship** | **Structural entrepreneurship** |
|---|---|---|
| **Carpe Diem** | Ministry of Trade and Fisheries<br><br>Freyr<br><br>Morrow Batteries | Ministry of Trade and Fisheries<br><br>Battery Norway |
| **Tortoises** | European Battery Alliance<br><br>BEBA | The Research Council of Norway<br><br>Innovation Norway<br><br>Hydro<br><br>Siva |

Problem framing, as Mintrom (2019) highlighted, plays a crucial role in shaping the attention paid to certain issues by individuals and groups. It involves presenting issues in specific ways to highlight their importance and elicit a desired response. Actors such as Morrow, Freyr and Hydro, but especially Freyr and Morrow, arranged meetings with politicians, introducing them to key issues pertinent to the battery industry, including the 10% custom political issue resulting from Brexit, IPCEI, power availability, regulation processes, and competence issues (Interviewee 7, 2023; Interviewee 1, 2023; Interviewee 5, 2023). Furthermore, an individual from the Research Council of Norway was identified as instrumental in framing battery policy issues for the politicians, working within the public policy apparatus and operating under a mandate from the Ministry of Trade and Fisheries (Interviewee 4, 2023).

Networking also emerged as a significant strategy. Several interviewees acknowledged networking as important for gaining attention and spreading their opinions on battery-related matters. The ministry of Trade and fisheries played a key role in this, frequently inviting companies and interest groups to participate in discussions and provide input on the battery

strategy (Interviewee 6, 2023; Interviewee 7, 2023). Interestingly, the ministry seems to have facilitated networking opportunities and arenas, thereby creating an open dialogue between various stakeholders. One would usually assume that such activities are done by non-government bodies because these usually are the ones who want to affect the government's decisionmakers.

Working with advocacy coalitions is another important facet of policy entrepreneurship. As per Sabatier´s definition, advocacy coalitions comprise individuals from diverse positions who share a belief system and demonstrate coordinated activity over time (Sabatier, 1988). In the context of the Norwegian Battery Strategy, entities like Innovation Norway, the Research Council of Norway and Battery Norway facilitated arenas for such coalitions, creating opportunities for interaction and collaboration between companies, interest groups, R&D institutions and officials (Interviewee 6, 2023; Interviewee 2, 2023;
Interviewee 4, 2023)

Despite potential differences in advocacy coalitions due to the multifaceted nature of policy issues in the battery industry, the consensus among most actors was the necessity for policy intervention. This consensus is reflected in the battery strategy and GII. However, the nuances in opinions on these topics were out of the scope for this thesis.

## 6.3 Assumption analysis

This chapter aims to explore the assumptions made in the theoretical framework in regard to the strategies and commitment types.

### *Problem framing*

This paper supports the view of problem framing as an activity within institutional entrepreneurship, while recognizing notable discrepancies between the approaches of Mintrom (2019) and Boasson (2015). Mintrom (2019) argues for the necessity of specific attributes and skills in successful problem framing, an aspect not explicitly underscored by Boasson (2015). Nonetheless, this paper contends that effective problem framing can be implemented absent these specific attributes and skills. However, this position does not diminish the significance of these skills and attributes.

The first assumption, derived from a theoretical stance, suggests that policy entrepreneurs successfully executed problem-framing within the context of Norway´s battery strategy. Supporting this assumption, evidence reveals numerous actors, including the Research Council of Norway, Freyr, Morrow, and others, have utilized this strategy to underline the need for a battery policy in the country. The Research Council of Norway[22], identified as a significant contributor to the policy process, conveyed the breadth of investment opportunities in the battery industry, articulating its potential to the Ministry of Trade and Fisheries and Vestre (Interviewee 2, 2023). Moreover, both cell manufacturers have interacted directly with the Ministry of Trade and Fisheries regarding specific issues calling for policy intervention and government support (Interviewee 2, 2023; Interviewee 9, 2023).

A second assumption posits that policy entrepreneurs may have employed both positive and negative framing to amplify the issues and advocate for the battery strategy. Various interviewees cited a representative from European Battery Alliance who positively framed the creation of a Norwegian battery strategy as relatively straightforward due to pre-existing governmental content (Interviewee 6, 2023; Interviewee 9, 2023). This represents positive framing. Conversely, the cell manufacturers repeated engagements with the Ministry on policy-specific issues suggest possible negative consequences necessitating government intervention. Nonetheless, given the confidentiality of these details, one cannot assert the employment of negative framing.

The final assumption theorizes that problem framing´s effectiveness may fluctuate based on the context and individuals involved, irrespective of whether specific skills or attributes are explicitly applied. In the case of the Norwegian battery strategy, this thesis could not collect sufficient information or data to conclusively validate or refute this assumption. Concurrently, it is observed that certain individuals´ interactions with decision-makers in specific contexts may have influenced the effectiveness of problem framing.

### *The use of networks*

Regarding network utilization, the primary assumption posits that policy entrepreneurs leveraged networking as a crucial tool to gain entry into decision-making arenas, even if initial direct access was not granted. However, evidence suggest that all aforementioned actors were granted access to the decision-making arena since the Ministry of Trade and Fisheries extended

[22] The Research Council of Norway in this setting is the indiviudal associated with this organization in the context of Norway´s battery strategy.

an invitation to all stakeholders to participate in input-meetings. Multiple interviewees also mention these meetings as open, including and that this is because of Vestre´s character (Interviewee 1, 2023; Interviewee, 3, 2023; Interviewee 6, 2023) Subsequently, the flow of information seemed to be primarily channeled through the working group rather than the ministry (Interviewee 1, 2023; Interviewee 2, 2023). As such, this assumption is not entirely validated as policy entrepreneurs were granted direct access to the decision-making arena by the decision-makers themselves.

Nevertheless, several interviewees identified representatives in the working group as instrumental to their involvement (Interviewee 1, 2023; Interviewee 4, 2023). Consequently, this indicates some validation of the assumption that networking played a pivotal role. This realization lends support to the second assumption, suggesting that networking served to bridge gaps and exert influence over the decision-making process.

The final assumption, stipulating the success of the Norwegian battery strategy hinged considerably on the ability of policy entrepreneurs to exploit their networks, appears to be validated. This is evidenced by the strategic relationships the actors cultivated with for instance the working group. Consequently, this analysis concludes that the effective use of networking significantly influenced the success of the Norwegian battery strategy.

### *Working with advocacy coalitions*

This study recognizes the integration of advocacy coalition collaboration as a strategy within structural entrepreneurship, primarily due to its distinct link with networking. A working assumption is that policy entrepreneurs allied with advocacy coalitions to garner support and influence policy decisions. The evidence shows that the working group played a central role in consolidating the advocacy coalition during the policy process. Post the battery strategy´s launch, an additional “binding agent”, Battery Norway, emerged, formalizing its relationship with the ministry as a key interest organization (interviewee 4, 2023; Interviewee 9, 2023).

Throughout the policy process, the advocacy coaltion functioned in a manner where working group representatives solicited feedback from industry partners. These actors, in conjunction with the working group, presented a joint proposition to the ministry, increasing their likelihood of successful policy influence. Consequently, this validates the initial assumption.

The evidence also demonstrates a highly open dialogue, encompassing a broad spectrum of actors, from environmental groups to staunch process-industry representatives, all of whom

cooperated on a unified statement (Interviewee 9, 2023). This suggests a convergence of opinions regarding the battery strategy´s content, thus partially validating the second assumption. However, to confirm this correlation, a more comprehensive data material set is required.

An additional assumption posits that the collaboration with advocacy coalitions bolstered policy entrepreneurs´ positions relative to the structural elements of the policymaking process. Given the apparent alignment of actors´ opinions, it is plausible to infer that this enhanced the efficiency of the policy process. However, to substantiate this assertion, a more detailed investigation into the policy process is necessary.

The final assumption proposes that the advocacy coalition comprised policy entrepreneurs sharing a mutual belief system concerning the significance and value of the battery strategy. Empirical evidence indeed validates this assumption, as actors predominantly expressed positive views towards the existence of a Norwegian battery strategy and appreciated the open process (Interviewee 2, 2023; Interviewee 4, 2023; Interviewee 6, 2023; Interviewee 7, 2023; Interviewee 8, 2023; Interviewee 9, 2023).

### *Leading by example*

Although the strategy of "leading by example" does not directly align with the overarching framework of institutional and structural entrepreneurship, it is nonetheless a focal point of this analysis.

The first assumption posits that policy entrepreneurs adopted the "leading by example" strategy, based on a theoretical stance. Evidence substantiates this assumption, revealing that a representative from the European Battery Alliance mitigated perceived risks among decision-makers concerning the development of a national battery strategy (Interviewee 6, 2023; Interviewee 9, 2023). The risk reduction played a contributory role in fostering a broader commitment to the battery strategy. Further evidence, specifically highlighting the role of the Research council of Norway, bolsters this claim (Interviewee 2, 2023; Interviewee 4, 2023).

The second assumption addresses whether the "leading by example" strategy could function as both an institutional and structural entrepreneurial strategy, as delineated in Table 1. As further demonstrated in Table 2, Freyr, Morrow Batteries, the Research Council of Norway, and the European Battery Alliance arguably employed this strategy in various ways. For instance, Freyr and Morrow Batteries initiated the construction of their respective gigafactories, thereby

demonstrating the feasibility of such ventures in Norway. This may have attenuated the risk factor for decision-makers. In addition, the European Battery Alliance effectively influenced government perceptions, while the Research Council of Norway acted more as a structural entrepreneur aiming to influence the agenda.

The third assumption suggests that Boasson´s (2015) theoretical delineations may not encompass all strategies utilized by policy entrepreneurs. In the specific case of the Norwegian battery strategy and the application of "leading by example", this assumption appears to be substantiated. The case does not neatly fit with Boasson´s (2015) binary categorization of structural and institutional entrepreneurship, hence suggesting a potential need for further research and the development of a broader, more flexible framework for analyzing policy entrepreneurship.

### *Scaling up change processes*

Inherent in the strategy of scaling up change processes is the notion that policy entrepreneurs leverage their previous engagements and successes in disparate policy areas to expedite the change process. From a theoretical viewpoint, their triumphs in other sectors and domains should bolster their influence on the decision-making process. Substantiating this assertion, there are multiple actors with prior involvements in other policy matters and domains, such as Freyr´s participation in BattKOMP, The Research Council of Norway´s, Innovation Norway´s and Battery Norway´s contributions to Prosess21, and Hydro´s role in the Joint Battery Initative just to mention some (Interviewee 1, 2023; Interviewee 2, 2023; Interviewee 4, 2023; Interviewee 6, 2023; Interviewee 5, 2023).

Their engagement across domains seemingly enhanced their credibility, and multiple stakeholders refer to these experiences as significant to the policy process (Interviewee 2, 2023; Interviewee 6, 2023). However, when discussing credibility, it is essential to further examine the role of skills and attributes as conditions for policy entrepreneurship, a factor not explored in depth in this thesis

Furthermore, the second assumption suggests that this strategy, akin to "leading by example", traverses the boundaries between structural and institutional entrepreneurship. The third assumption expands upon this notion, positing that the categories of structural and institutional entrepreneurship may not sufficiently encapsulate the complexity of policy entrepreneurship.

Evidence indicates that these two assumptions could be valid, implying that Boasson´s (2015) framework might not fully represent the dynamic complexity of the policy process, especially regarding scaling up change processes. Consequently, these assumptions could be argued to be verified.

The final assumption proposes that policy entrepreneurs involved in the development of Norway´s battery strategy have effectively capitalized on their past achievements in other policy areas to establish credibility and exert influence. However, this thesis has not collected substantial evidence to confirm this due to its lack of focus on the attributes these policy entrepreneurs possess. Hence, future research needs to investigate this facet to reach a conclusion on this assumption.

# 7.0 Discussion

This chapter embarks on a comprehensive exploration of the central findings presented in the previous sections of this thesis, providing an interpretation within the broader context of policy entrepreneurship literature. The objective is to elucidate the significance of these findings, evaluate their implications, and suggest avenues for future research.

This discussion will first draw comparisons with established literature, specifically examining the theories and conclusions of Mintrom (2019) and Boasson (2015). This comparison will shed light on how our findings align with or diverge from the existing theoretical landscape, contributing valuable perspectives to the discourse on policy entrepreneurship.

Subsequently, the discussion will evaluate the effectiveness of different strategies employed by policy entrepreneurs, such as problem framing, networking, leading by example, working with advocacy coalitions, and scaling up change processes. Through examining the varying degrees of success associated with these strategies, one aims to provide a nuanced understanding of their application in the context of Norway´s battery strategy.

Continuing, one will look into the norms of policymaking, discussing whether the process regarding the battery strategy could be one where one challenges the norms of policymaking. Here one discusses the efficacy and necessity of these traditional norms and whether this instance triggers a reassessment of how one develops policy.

Furthermore, one will discuss the role of Carpe Diemers and Tortoise actors within structural and institutional Entrepreneurship. This way, one can discuss the importance of factorting in commitment types when analyzing policy processes, and look into the possibility to provide additional layers to our understanding.

Next, one will go into depth regarding the role of policy entrepreneurs in the policy-making process, looking at our observations against the theoretical framework. Concurrently one addresses the dynamic nature of policy entrepreneurship activities, identifying possible limitations within Boasson´s (2015) framework and the need for a more versatile framework capable of capturing this complexity.

Towards the end, the chapter will acknowledge limitations encountered in the study and highlight areas for future research, in addition to personal biases and subjective perceptions. The aim here is to provide suggestions for subsequent research efforts, promoting an understanding of the complexity inherent in policy entrepreneurship. Here, one will discuss the practical implications of our findings for policy-making processes. Specifically, one will explore how insights from this thesis could be important in shaping future policy-making processes, particularly within the realm of battery policy or similar initiatives.

In summary, this discussion chapter aims to not only summarize the key findings of this thesis, but also to link these findings to a broader scholarly conversation, providing a comprehensive understanding of policy entrepreneurship theories' role in the context of Norway´s battery strategy.

### *Comparison with existing literature*

This section endeavors to compare our research findings against established theories on policy entrepreneurship, primarily focusing on Boasson´s (2015) distinction between structural and institutional entrepreneurship and Mintrom´s (2019) strategies for facilitating policy change and implementation.

When the theoretical frameworks of Boasson (2015) and Mintrom (2019) are applied to our analysis of development of Norway´s battery strategy, certain nuances appear to elude precise categorization. For instance, strategies such as "leading by example" and "scaling up change processes" seem to sit uneasily with Boasson´s structural and institutional entrepreneurship.

This suggests that the current theory may fall short in encapsulating the important nuances of policy entrepreneurship, and that the theory is not flexible enough to encapsulate the diverse set of actions policy entrepreneurs choose to employ. Conversely, focusing solely on Mintrom´s (2019) strategies might limit our perspective, concentrating excessively on individual actions and neglecting a broader, holistic viewpoint of the policymaking process.

Morover, Boasson´s (2015) dichotomy of structural and institutional entrepreneurship prescribes a rigid theoretical framework that may not fully account for the dynamics observed in the findings. Our findings suggest that policy entrepreneurs can deploy an array of approaches at varying stages of the policy-making process, pointing to a more fluid and flexible practice than delineated by Boasson (2015). While maintaining clear theoretical demarcations can aid analysis and comprehension, our study underscores the need for a more comprehensive and dynamic framework to effectively capture the complex realities of policymaking.

Interestingly, Boasson (2015) posits that structural entrepreneurs lack access to formal decision-making arenas, and therefore use their networking as an entrepreneurial activity to gain this access. Yet, our analysis unveiled that structural entrepreneurs involved in the development of Norway´s battery strategy was indeed able to access these arenas, thanks in part to the openness of the Ministry of Trade and Fisheries and the proactive efforts of an inclusive working group. In light of these findings, one could argue that such access was made possible due to the structural entrepreneurs´ networking skills, thereby aligning with Boasson´s claim about the significance of networking for these actors.

Ultimately, this thesis neither starkly contradicts nor entirely support the theoretical frameworks put forth by Boasson (2015) and Mintrom (2019). Instead, it contributes valuables nuances and insights for further contemplation in policy entrepreneurship research, particularly within the sphere of climate policy development. While our theories cannot account entirely for the emergence of Norway´s battery strategy, they explain a considerable portion of the process, underscoring the active role policy entrepreneurs played in this policy shift.

### *Evaluating the Effectiveness of Policy Entrepreneurship Strategies*

Another important element of our discussion entails assessing the effectiveness of the various strategies adopted by policy entrepreneurs during the development of Norway´s battery strategy. These include problem framing, networking, leading by example, working with

advocacy coalitions, and scaling up change processes. One aims to pinpoint what strategies were more impactful than others, elucidating the reasons for their effectiveness, and unearth intriguing dynamics among them.

There is a reasonable argument to be made that certain strategies hold more sway than others within the context of Norway´s battery strategy. While it is notable which policy entrepreneurs deployed specific strategies, the relative effectiveness of these strategies in shaping the policy process is crucial to consider. For instance, although the Research Council of Norway employed all identified strategies, the European Battery Alliance also exerted considerable influence on the policy process, demonstrating the potential for disproportionate impacts of certain strategies. This hints at the idea that some strategies might "carry more weight" in driving policy outcomes.

While networking may have played a role in policy entrepreneurs' access to the decision-making arena, its direct impact on the development of Norway´s battery strategy might be deemed less significant. This is mainly because the policy entrepreneurs gained access to the decision-making arena early on by the Ministry of Trade and Fisheries, in addition to the working group focusing on gathering feedback from the actors. The efficacy of the policy process was arguably more influenced by the consensus-building efforts of the advocacy coalition, ensuring alignment of opinions among actors and thereby promoting process efficiency. Thus, strategies like collaborating with advocacy coalitions might "weigh" more than others, such as networking, this is closely tied to coalition-building and these may be connected to each other.

Furthermore, our findings highlight the importance of problem framing in the early stages of policy development. The individual from the European Battery Alliance effectively framed the case for a national battery strategy. Concurrently, the Research Council of Norway illustrated the potential benefits of investing in a Norwegian battery industry. These actions spurred the Ministry to marshal resources swiftly, forming a working group and facilitating industry input sessions, thereby granting access to the decision-making arena. This sequence of events underscores the role of problem framing as an instigator of the policy process.

However, it is worth contemplating what actually sparked the initiation of the policy process. It is plausible that the personal attributes and skillsets of the individuals involved played a substantial role, with particular emphasis on credibility. For instance, if an industry novice

were to advocate the creation of a battery strategy to the Minister of Trade and Fisheries, it is doubtful that this would inspire a robust policy process. Credibility is evidently a vital asset for a policy entrepreneur. However, the precise nature of this correlation is outside the scope of this thesis.

Nevertheless, one does examine a strategy that could potentially be a source of this credibility: scaling up change processes. Certain policy entrepreneurs demonstrated success in other fields or policy arenas, and their prior involvement may have enhanced their credibility, enabling them to persuade decision-makers to trust their insights. While this makes intuitive sense, the data gathered from this thesis is not sufficient to conclusively endorse this claim.

In summary, while each strategy has its unique benefits, certain ones may yield a more profound impact on the policy process. Understanding these strategies relative effectiveness and the dynamics between them provides valuable insights into the complex world of policy entrepreneurship. This nuanced perspective may guide future research, and ultimately, enhance policy development efficacy.

### *Challenging Established Norms*

The formation of the Norwegian Battery Strategy brought the traditional norms within Norway´s ministries into focus. In this case, conventional strategy development pipelines were bypassed, possibly leading to faster policy implementation. This prompts intriguing inquiries about the efficacy and necessity of these traditional norms. Could this instance trigger a reassessment of these norms and potentially inspire modifications that could streamline the policy development process?

Should this be the case, it could imply a need for internal recalibration of how policy processes are initiated and executed within the ministries. Common criticism often labels these processes as “too lengthy” and “insufficiently efficient”, leading to an inflated bureaucracy. However, if this policy process can serve as a benchmark, inspiring the government to reconfigure their policy implementation methods and industry or non-government body involvement strategies, it could address the efficiency concerns within the bureaucracy.

Simultaneously, as highlighted by Boasson & Wettestad (2014), commitment types within policy processes, one might perform as a “tortoise” actor in one policy process and transition

into a “carpe diem” actor in the next. The dynamic nature of policy processes poses a challenge to generalizations, given that each process varies from its predecessor. Factors such as different actors, industrial or political fields, and the unique dynamics within these environments contribute to the variations. Regardless, the accomplishment in this case was the successful collaboration of diverse actors, from the process-industry actors to environmentalists, without significant disagreements on the importance of the Norwegian Battery Strategy.

While there may be minor disagreements on whether the strategy could be more specific, there is a broad consensus, with no actors voicing major concerns about the importance of the Norwegian Battery Strategy. This is in line with the advocacy coalition approach, wherein, as Sabatier (1988) posits, minor disagreements might arise, but the actors generally share a common belief system.

### *The role of Carpe Diemers and Tortoises and Structural and Institutional Entrepreneurship.*

Apart from the individual strategies, the thesis has also highlighted the pivotal role of both institutional and structural entrepreneurship, contextualized by distinct commitment types. This reinforces the importance of factoring in commitment types when analyzing policy processes, providing additional layers to our understanding.

Moreover, it is essential to underscore that the presence of actors with a “Carpe Diem” commitment does not inherently undermine policy work. Quite the contrary, a blend of “Carpe Diem” and “Tortoise” actors can potentially generate the most effective policy solutions. As an illustration, Freyr and Morrow Batteries, characterized in this thesis as “Carpe Diem” actors within institutional entrepreneurship, could not have orchestrated the Norwegian battery strategy as efficiently in isolation. But their synergy with the “Tortoise” commitment exhibited by the structural entreprenerus created a dynamic that may have culminated the desired outcome.

The findings depict a nuanced interplay among these categories. While some actors embrace a “Carpe Diem” commitment within the realm of institutional entrepreneurship, others adopt the same commitment type but function as structural entrepreneurs. Additionally, one might also act as a “Carpe Diemer” in one policy issue and as a “Tortoise” in another, proving the complexity of studying policy entrepreneurs and policy entrepreneurship. This interplay

underscores the intricate complexity inherent in the policy entrepreneurship framework, revealing its multifaceted nature. Concurrently, one could argue that this complexity stems from a framework, while broad, lacks the specificity needed to fully capture these nuances. Hence, the exploration of these dynamic roles and interactions contributes to evolving our understanding of policy entrepreneurship and the array of strategies it encompasses. This exploration underscores the importance of a flexible, nuanced approach in future research.

### *Examining the Role of Policy Entrepreneurs*

A significant part of this discussion revolves around the role of policy entrepreneurs in the policy process. Kingdon´s (1984) definition suggests that policy entrepreneurs are guided by self-interest, pursuing actions that may come with future benefits. However, in this case, it is unclear what benefits for instance the Research Council of Norway, a key policy entrepreneur in this case, anticipates from its endeavours. This case therefore prompts a reevaluation of Kingdon´s definition, questioning whether it is too restrictive and should be broadened to encompass entities like the Research Council of Norway or Innovation Norway, which may not operate purely on self-interest.

Given the theoretical framework employed, wherein policy entrepreneurs were categorized based on their strategic influence on policy implementation, it becomes crucial to scrutinize the suitability of this characterization. Are we effectively capturing the roles of these policy entrepreneurs, or does the theoretical framework inadvertently exclude certain actors? For instance, some contributors to the policy process, such as those in the public policy apparatus, have unique roles that differentiate them from industry actors. As they operate under ministerial mandates, it is debatable whether labelling them as policy entrepreneurs accurately reflects their functions. If their actions are viewed as merely executing their official duties, it could mean that our understanding of policy entrepreneurs needs refinement. Consider, for instance, Innovation Norway, which organizes events and forums where the entrepreneurial activity takes place. This is a part of their responsibilities.

However, these activities also contribute to the development of advocacy coalitions and networking - strategies typically associated with policy entrepreneurs. This presents the dilemma: are they policy entrepreneurs or merely public actors performing their duties?
This debate is particularly pertinent in this context, and it relates to the extent to which the theoretical framework aids our analysis of this specific matter. If we maintain the assumption

that a policy entrepreneur must act out of self-interest, we must then rigorously define "self-interest". Could it imply a continued engagement with the industrial field, or does it imply gaining tangible benefits such as an increase in the value of shareholdings due to heightened attention to an invested company? This may be an extreme example, but it serves to illustrate the complexities surrounding the definitions of policy entrepreneurs and the motivation driving their policy-related contributions.

### *Consideration of Personal Biases and Subjective Perspectives*

The influence of personal biases and subjective opinions is an important factor to consider in this analysis and cannot be overlooked. Notably, there was a divergence in the responses from interviewees about their roles in the policy process; some perceived themselves as central actors, while others did not recognize themselves as such.

This discrepancy indicates the possible impact of personal biases on the interviewees´ self-perception of their roles in the process. This has indeed been noted as something that could occur when interviewing experts about events and behaviors, as explained in the methodology chapter. Consequently, this raises questions about the weight we should assign these subjective perspectives in our analysis and how we can accommodate these biases within our theoretical framework.

One potential interpretation of this, is that the interviewees were simply providing an accurate portrayal of their involvement. For instance, all the interviewees identified the Research Council of Norway as a critical player in the policy process. This could suggest that when this individual acknowledged their role as a policy entrepreneur or a key actor, they were merely reflecting reality rather than expressing a biased view. However, the sampling methodology used in this thesis, snowball sampling, may have inadvertently resulted in an emphasis on the interviewees´ networks, potentially overlooking other relevant actors.

Another perspective to consider is that industry actors might have a vested interest in overstating their significance in the policy process. Such recognition could offer certain benefits. However, these actors also indicated that the battery strategy initially held less important for them as they were more interested in securing risk mitigation funds and capital from the government or public policy apparatus. Given that the Norwegian Battery Strategy

did not include specific measures related to risk mitigation funds, it is hard to substantiate the claim that these actors would exaggerate their roles out of self-interest.

Consequently, it appears more likely that the interviewees were conveying "their" truth during the interviews. The possibility that the industry actors, especially the companies, might have used the interviews to advocate for increased government support and incentives was considered. However, it seems improbable they would select this route of communication over utilizing their well-resourced PR teams, which would likely be more effective in achieving this goal.

### *Assessing Limitations and Outlining Directions for Future Research*

Despite the comprehensive exploration of policy entrepreneurial activities during the policy process, there remain certain limitations and opportunities for further research. This thesis, while expansive in scope, can only accommodate so much. Consequently, subsequent investigations into climate policy development are encouraged to delve further into the implications raised herein.

First, a key challenged encountered in this research was the scarcity of information on Norwegian battery policy. This is expected, given the relative novelty of the industry, particularly in the policy sphere. Therefore, reliance on the information derived from the interviews was substantial. As highlighted in the discussion of methodological challenges, the researcher´s limited experience in conducting interviews with experts is acknowledged. As a result, the interviews could have been more rigorously structured, facilitating the collection of more precise information about this case and also the specific theoretical considerations. However, extracting finer details without fully disclosing the research purpose, primarily policy influence, could have resulted in reluctance from interviewees to share information, fueled by concerns of potential misuse or unfavorable representation of their input.

Secondly, this research highlights the need for further study into the interplay of a holistic view of entrepreneurship and the specific focus on individual skills and attributes in the context of policy processes. As indicated by some of the findings, the strategies employed and the distinction between structural and institutional entrepreneurship can provide some explanatory value, but they do not offer definitive explanation. This study contends that individual skills and attributes might play a distinct role in fully understanding the process. Future research

should consider the integrative nature of these elements, incorporating a more holistic approach to provide a broader, more flexible theoretical framework for policy process analysis. In suggested by some theories, advocating for a consideration of personal attributes alongside the strategies individuals choose to employ in policy processes.

Finally, due to constraints in data collection, the narrative presented herein is not exhaustive. Further research should concentrate om examining the specific impacts of strategies more thoroughly. This includes the integration of "scaling up change processes" and "leading by example" as strategies, complementing those presented by Boasson (2015). Such comprehensive exploration would enhance our understanding of the varied approaches that contributed to effective policy development.

# 8.0 Conclusion

In conclusion, the development of the Norwegian Battery Strategy presented a unique opportunity to assess traditional norms within policymaking in Norway´s ministries, alongside an investigation into policy entrepreneurship activities and strategies. Importantly, it shed light on the potential benefits of deviating from traditional policy development pipelines, hinting at a faster and perhaps more efficient means of policy implementation. If this case acts as a precedent, it could stimulate rethinking and potential revisions within the standard policy development process, which could, in turn, address common criticisms related to bureaucratic inefficiency.

Furthermore, this thesis has emphasized the multifaceted roles of policy entrepreneurs within the policy development process, highlighting the complexity inherent within these dynamics. Policy entrepreneurs may switch between "Carpe Diem" and "Tortoise" commitments, underlining the dynamic nature of policy processes and the necessity of avoiding oversimplification. Interestingly, this case demonstrated a successful collaborative effort among diverse actors, reinforcing the tenets of the advocacy coaltion approach, which underscores shared belief systems, even in the presence of minor disagreements.

By investigating the interplay between "Carpe Diem" and "Tortoise" actors and structural and institutional entrepreneurship, this study brings to the forefront the need for nuanced analysis in future research. It posits that the blend of these diverse commitment types can potentially generate the most effective policy solutions. However, it also identifies the necessity for the

theoretical framework to evolve, accommodating the subtleties observed and offering a more precise lens through which these dynamics can be examined.

Finally, it is crucial to acknowledge the potential influence of personal biases and subjective opinions in the process. Divergences in interviewee responses revealed possible impact of personal biases on self-perception of roles in the policy process. This emphasizes the necessity to critically evaluate the weight given to subjective perspectives in this analysis and consider how these biases might be accommodated within the theoretical framework. However, it also presents the need for caution in avoiding overemphasis on these biases, as the industry actors´ vested interests may not necessarily align with the misrepresentation of their roles in the process.

The Norwegian battery strategy serves as a valuable starting point for further studies in policy entrepreneurship, providing a foundation for refining our theoretical understandings and methodological approaches. It also provides policymakers with valuable insights into how policy entrepreneurship can be leveraged to expedite policy development and implementation processes, potentially leading to more efficient and effective outcomes.

This research has opened multiple avenues for future investigation, from refining our theoretical understanding of policy entrepreneurship to developing more objective methods for identifying key actors in policy processes. As we continue to delve into the world of policy entrepreneurship, it is clear that the lessons learned from the Norwegian battery strategy will continue to inform and guide our explorations.

Overall, this thesis offers a comprehensive exploration of the development of Norway´s battery strategy. It highlights the necessity of flexible, nuanced research approaches and the importance of reconsidering established norms, providing a valuable basis for future studies. Told you it was a ride, didn´t I?

# 9.0 References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# Appendices

## Appendix A – List of Interviewees

- **Interviewee 1**: Employee from Freyr. Working with governmental contact. Date of interview: 27.01.2023
- **Interviewee 2:** Employee in the Research Council of Norway. Working with Prosess21. A representative from the working group. Date of interview: 07.02.2023
- **Interviewee 3**: Employee within European Battery Alliance. Work related to InnoEnergy. Date of interview: 07.02.2023
- **Interviewee 4**: Employee within Battery Norway. CEO. Date of interview: 10.02.2023
- **Interviewee 5**: Employee within Hydro. Working with the field of batteries. Date of interview: 27.02.2023
- **Interviewee 6**: Employee in Innovation Norway. Has worked with the field of batteries during the policy process. A representative from the working group. Date of interview: 02.03.2023.
- **Interviewee 7**: Co-founder of Morrow Batteries. Works with corporate affairs. Date of Interview: 06.03.2023.
- **Interviewee 8**: Employee in Siva. A representative from the working group. Date of interview: 07.03.2023.
- **Interviewee 9**: Employee in the Ministry of Trade and Fisheries. Responsible for organizing the battery strategy work. Date of interview: 09.03.2023.
- **Interviewee 10**: Employee in BEBA. Date of interview: 29.03.2023.

# Appendix B – Interview guides

**Introduction and disclaimer**
*These interviews will be held in Norwegian due to the fact that most of these informants are Norwegian*

Før jeg starter på selve intervjuet så ønsker jeg gjerne å takke for at du tar deg tid til å delta. Det at du deltar er ufattelig verdifullt for masteroppgaven min, så tusen takk.

Videre så vil jeg forklare litt hvordan intervjuet er bygd opp. Intervjuet vil være av semi-strukturert natur, som innebærer at det tar form av en samtale. Jeg er både på jakt etter spesifikk informasjon og refleksjoner du skulle ha rundt temaet som omhandler hvilken rolle dere har spilt i utviklingen av norsk batteripolitikk, og hvilke aktiviteter dere har tatt i bruk for å kunne bidra til utviklingen av norsk batteripolitikk.

Jeg vil og understreke hovedpunktene som ble sendt gjennom informant brevet. Din deltakelse i denne studien er frivillig, og til enhver tid - under intervjuet, etter intervjuet - så kan du trekke deg fra å delta i studiet. I tillegg så vil du og ha tilgang til lydopptaket som blir tatt opp, i tillegg til annet materiale som blir innsamlet under intervjuet. Hvis du ønsker det, så kan det bli slettet.

Før vi starter så trenger jeg å vite dine preferanser når det gjelder anonymitet sånn at jeg på riktig måte håndterer det datamaterialet jeg samler inn fra intervjuet, slik at dine rettigheter er ivaretatt.

A - Åpnings- og bakgrunnsspørsmål
1. *Kan du fortelle litt om deg selv og din rolle i *organisasjonen*?*
2. *Når føler du startskuddet for norsk batteriindustri gikk i Norge?*
   *2.1 Hvorfor akkurat dette?*

B - Norsk batteripolitikk
*Det har jo vært et enormt fokus på batterier de siste årene, og det har jo vært en enorm utvikling i industrien. Men…*
1. *(Problem framing) Hvordan begynte dere å arbeide med å skape en forståelse for politikerne at det var viktig å få politisk støtte/skape policy på batteriområdet?*
2. *Når var det at dere fikk et behov for å få politisk støtte (om dere trengte det)?*
3. *Hva var det dere ønsket fra politikerne?*
   *3.1 Offentlig støtte vs. politikk på området; Ønsket dere eksempelvis offentlig støtte, eller var det slik at dere ønsket politikk på området?*
4. *Hvordan startet dialogen mellom dere og politikere om batteripolitikk?*

C - Nettverksaktiviteter & Advocacy Coalitions
1. *Har dere aktivt brukt nettverket deres for å kunne bidra inn mot policy prosessen?*
   *1.1 Hvis ja - kan du utdype?*
   *1.2 Hvis nei - kan du utdype?*
2. *Har dere arrangert/deltatt på møter, seminarer, workshops eller andre arrangementer med andre personer som har ønsket å oppnå samme policy-endring som dere?*
   *2.1 Hvis ja - hva slags type aktører var der, og hvilket format var det i?*
   *2.2 Hvis nei - Har dere hørt om at slike arrangementer tar plass?*

D
1. *Har dere hatt et fokus på å ta en ledende rolle i media og på samlingspunkter som eksempelvis seminarer, konferanser, workshops etc.?*
   *1.1 Hvis ja - kan du utdype om hva dere har gjort for å kunne være synlig?*
   *1.2 Hvis nei - Hvorfor har dere eventuelt ikke tatt denne rollen?*

E

*Nå er vi jo i en fase der man har fått en norsk batteristrategi, men…*

1. *Ville du ha sagt at det har vært ulike faser der du har vært mer/mindre involvert i policy-arbeidet?*

F - Avslutningsvis

1. *Kunne du ha nevnt noen nøkkelaktører i prosessen?*
2. *Er det noe du har lyst til å tilføye? Noe jeg har glemt?*

# Appendix C – Information letter

*due to the fact that these interviewees were Norwegian, the information letter is therefore in Norwegian*

**Vil du delta i forskningsprosjektet**
***"Entering the Norwegian Battery Paradigm: Exploring Policy Entrepreneurship"*?**

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å undersøke hvilke strategier norske batteriaktører har brukt for å bidra til policy prosessen tilknyttet batteri. I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

**Formål**

Som nevnt innledningsvis omhandler denne masteroppgaven norske batteriaktørers rolle i policy utvikling i Norge. Dette innebærer at jeg vil se på hvilke prosesser som har tatt plass for å kunne skape norsk policy på batteriområdet, at jeg ser på hvordan industriaktørene har bidratt til policy prosessen.

Bakgrunnen for oppgaven er at de siste årene har det vært et enormt fokus på batterier, både i Norge og i utlandet. På andre industriområder, eksempelvis Offshore Wind og karbonfangstlagring ser vi at politikerne har vært beslutningstakere på noen deler av industriutviklingen og i 2022 kom den norske batteristrategien, et dokument som beskriver 10 ulike satsingsområder innenfor utviklingen av en norsk batteriindustri.

Mer spesifikt skal jeg i denne masteroppgaven ha et fokus på policy entreprenørskap opp mot det valgte temaet for oppgaven. Jeg vil derfor ha et teoretisk fokus som omhandler hvordan policy entreprenører går frem for å bidra til offentlige beslutningsprosesser.

**Hvem er ansvarlig for forskningsprosjektet?**
Universitetet i Oslo og Amalie Skaiå Larsen er ansvarlig for prosjektet.

**Hvorfor får du spørsmål om å delta?**
Du får tilbud om å delta basert på din rolle i diskusjonene om utviklingen av norsk batteripolitikk.

Det er gjort et ikke-sannsynlighets utvalg, som baserer seg på kjennskap til nøkkelpersoner. Videre har det blitt gjort anbefalinger fra nettverk om at du er en person som bør delta, da du besitter god kjennskap til området og tematikken for oppgaven. Utover denne forespørselen, har ni andre blitt invitert til å delta i forskningsprosjektet.

**Hva innebærer det for deg å delta?**
Dette er et kvalitativt, semi-strukturert intervju noe som innebærer at det vil ta form av en samtale mellom oss to med noe løsere rammer enn ved strukturert intervju.

- Intervjuet vil vare mellom 45-60 minutter, og det vil ta form av en samtale mellom oss to om temaet for masteroppgaven.
- Det vil bli tatt lydopptak av intervjuet, og dette blir gjort gjennom diktafon-appen til Universitetet i Oslo. Dette er på bakgrunn av å sikre at informasjonen er korrekt, samt at det øker validiteten og etterprøvbarheten til oppgaven. Om du skulle ha motforestillinger mot dette, gi beskjed minst en dag i forkant av intervjudagen.

**Det er frivillig å delta**
Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykket tilbake uten å oppgi noen grunn. Alle dine personopplysninger vil da bli slettet. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

**Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger**
Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

- Det er jeg, Amalie Skaiå Larsen, som vil ha tilgang til datamaterialet og opplysningene om deg, samt veileder Elin Lerum Boasson. Begge tilhører Universitetet i Oslo.
- Om du ønsker å være anonym, vil jeg erstatte navnet ditt i masteroppgaven, samt sikre at ikke opplysningene du oppgir ikke kan spores tilbake til deg. De opplysningene som er relevante for masteroppgaven er kun navn og arbeidssted, og disse vil da bli publisert i oppgaven.

**Hva skjer med personopplysningene dine når forskningsprosjektet avsluttes?**
Prosjektet vil etter planen avsluttes innen mai 2023, og lydopptakene vil senest bli slettet innen 2023 er slutt.

**Hva gir oss rett til å behandle personopplysninger om deg?**
Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra Universitetet i Oslo har Sikt – Kunnskapssektorens tjenesteleverandør vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

**Dine rettigheter**
Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke opplysninger vi behandler om deg, og å få utlevert en kopi av opplysningene
- å få rettet opplysninger om deg som er feil eller misvisende
- å få slettet personopplysninger om deg
- å sende klage til Datatilsynet om behandlingen av dine personopplysninger

Hvis du har spørsmål til studien, eller ønsker å vite mer om eller benytte deg av dine rettigheter, ta kontakt med:

- Universitetet i Oslo ved Amalie Skaiå Larsen (amalisl@student.sv.uio.no eller amalieskaiaa@gmail.com) og Elin Lerum Boasson (e.l.boasson@stv.uio.no)
- Vårt personvernombud: Roger Markgraf-Bye, personvernombud@uio.no

Hvis du har spørsmål knyttet til vurderingen som er gjort av personverntjenestene fra Sikt, kan du ta kontakt via:

- Epost: personverntjenester@sikt.no eller telefon: 73 98 40 40.

Med vennlig hilsen

Amalie Skaiå larsen
Masterstudent ved Universitetet i Oslo

# Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet «Entering the Norwegian Battery Paradigm: exploring policy entrepreneurship», og har fått anledning til å stille spørsmål. Jeg samtykker til:

- Å delta i kvalitativt intervju
- At informasjonen som innhentes i sammenheng med masteroppgaven anonymiseres
- At mine personopplysninger lagres i opptil 2 år

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet

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(Signert av prosjektdeltaker, dato)