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Title: The integration of the ecosystem services approach into Norwegian environmental policy? Discourse analysis of the different narratives that shaped the process of incorporation for this concept in Norwegian environmental policy.

Key words: Ecosystem Services, Norwegian environmental policy, Discourse analysis, Ecosystem service valuation, monetary valuation.

This master thesis builds on the “master thesis proposal” that has already been submitted in autumn 2018 as an assignment for another course, thus some small part of the text remain similar to that already submitted by Inspira last year.

Acknowledgement

This master thesis has been a personal and academical enrichment since I learned to problematise analyse and find methods to analyse a topic that I was deeply curious about. This intrigue arose from the complex interaction between economy and ecology and the philosophical and moral issues that they are related to. This curiosity was reinforced through the master and this master thesis would not have been possible without the interesting courses along this master, the involvement of many professors, my supervisor and the informants.

Indeed, through the method courses, I gained valuable insight into how to proceed with the thesis, through the political science courses I gained insight into how political processes take place and what are the key elements to consider and through the economics courses I gained insight into the economics that underpins decision making. Amongst the economic courses, the course of environmental and resources economics course made me want to investigate some of the concepts discussed, but from a political science point of view.

The precious support and enthusiasm of my professors and supervisor during this master make it possible for me to develop this thesis under the best conditions. I would also like to thank the informants which lend me some of their precious time for a step that was crucial during the elaboration of this thesis.

Abstract

Norway has a particular social context and history, and this has had a notable impact on thought and policy. Indeed, it is the country where the deep ecology philosophy, the sustainable development approach and the freedom they have in enjoying nature through “*allemannsretten*” were developed (the latter being the right to enjoy and camp in every wild area in the country). In this context, this master thesis looks at what are the narratives that attempted to put the Ecosystem Service (ES) approach in Norwegian national policy and which discourses have been instrumental in this process. The ES approach looks both at the economic valuation of nature in different ways and the different forms of value we -as humans- get from nature such as value for the services it provides. The discourse analysis approach set out by Hajer (1995) has been used in combination with thematic analysis as set out by Braun & Clarke (2006) which the aim of contribution on new knowledge on the impact of framing in the development of the environmental policy process.

In this setting, it was found that while in Norway different forms of valuation of ES exist, most of them commodify nature but in unexpected ways. There has been remarkably little debate around the way nature is categorized in such a context; is it just another commodity that can be valued in terms of money? One of the key narratives for the setting on the agenda of the ES approach is looking at it as just another way to make sure welfare is maximized from an anthropocentric perspective.

What is remarkable in Norway is the overall reluctance for monetary valuation, especially compared to neighbouring countries within this same ‘Nordic Model’ context where countries share a set of cultural values. In Norway, ethical arguments are put in opposition to monetary valuation and the ES approach is viewed by many as being a communication tool to ‘reveal’ the value of nature has to us. Some proponents argue for it is a key strategy for more effective environmental management, as the ES approach allows for taking a broader approach by doing area management -to protect ecosystems-, rather than focusing narrowly on a single species. This raises the question of the relevance of moral reasons in nature conservation and whether it can come at odds with the effectiveness of nature conservation.

The absence of discourse coalitions in this debate is also notable (as in Hajers discourse analysis terms, 1995). However, some storylines shaped by Miljødirektoratet (the Norwegian Environmental Agency) and other proponents have been shared and developed. Through them, they managed to a certain extent to successfully impose

their rhetorics concerning the ES approach. Therewith, the ES approach gained momentum in Norway after 2011 until today. However, the Norwegian environmental policy notably entirely excludes monetary valuation while this latter form of valuation has gained momentum in other European countries. Several explanations for this have emerged.

The strongest point raised in this thesis is the absence of monetary valuation as it is a key narrative underpinning the integration of the ES approach in Norwegian environmental strategy, indeed it has important implications. One of them being that the ES approach is often not taken in an economic analysis which is a commonly used decision-making tool for deciding on large industrial projects or projects involving public money. This means that values of ES would be more open to interpretation and limits its use in practice. Another explanation to the reluctance to monetary valuation is that some might fear that the value of ES would be very high, making some projects not happen. Others argue that putting a monetary value on ecosystem services gives an idea of the value of a particular ecosystem services but does not show a complete picture -such as the exclusion of its intrinsic value-, and others argue that the knowledge from biology does not allow to determine the value of ecosystem service at all, or only to a limited extent. Therewith the limited integration of the ES approach in Norwegian environmental policy is due to cultural but mostly political and economic considerations, the reasons for which will become clear throughout this text.

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Abbreviations

CITES: Convention of international trade in endangered species

CBD: Convention on biological diversity

CICES: Common International Classification of Ecosystem.

ESV: Ecosystem Service Valuation

ES: Ecosystem Service

EU: European Union

IPBES: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

MEA: Millennium Ecosystem Assessment

NOU: Norges Offentlige Utredninger ('Norwegian Official Report')

n.d.: non-dated

PES: Payments for ecosystem services

SDG: Sustainable development goals

TEEB: The Economics of Ecosystems and Biodiversity

UNDP: United Nations Development Program

Introduction

Perspectives on human-environment relationships have changed greatly throughout history (Chaudhary, 2015). The concern about how humanity impacts ecosystems – and therewith its services – has been increasing in recent decades (Nahlik et al., 2012). This has led to a renewed focus on the extent to which humanity has direct and indirect utility from ecosystems (Aanesen et al., 2015, p.58). According to Defra, human-environment relationships can be viewed through an economic lens. The utility is a maker of value largely used in the discipline of economics (Mankiw, 2001). Therefore, utility is a key maker of value and it can be expressed in different forms, such as in monetary terms.

Economics can be defined as “the study of how society manages its scarce resources” (Mankiw, 2001, p. 4). In this setting, Defra defines the concept of Ecosystem Services as “services provided by the natural environment that benefit people” (Defra, 2007, p.12). Hence, in this view, the environment is classified as a crucial natural resource for ensuring human welfare (Erwin et al., 2010. p.450). Ecosystem Service Valuation (ESV) provides the advantage of establishing a common language through economics by which those services from nature can be “taken into account in policy decision-making” (Defra, 2007, p.9). Tempelman & Sæther argue that the stakeholders are aware of their dependence to the Norwegian ecosystem service and the threat that their degradation represents (2015), however, this point is controversial. Krøvel (2012) found in his research on agenda-setting in the Norwegian environmental debate that creating knowledge was more influential than producing buzz in the end result of the adoption of policy; this is why the investigation of this issue is very valuable. This implies that the way information and research are presented is crucial for its role in shaping environmental policy and leads back to the idea of the power of discourses investigated by amongst other, Foucault and Hajer (1995), which in turn suggests the way in which the concept of ES was framed is highly relevant for the concept as it is today.

According to Chaudhary et al. (2015), the concept of ecosystem services and its valuation is “becoming an increasingly powerful and global concept” (p.25). They argue that the meaning is evolving rapidly as different stakeholders such as “researchers, policy makers, and managers” examine how this concept would be operationalized (Chaudhary et al, 2015, p.25). Several articles have referred to the importance and political implications around this concept, and the lack of analysis around the latter (Aslaksen et al., 2013; Navrud, 2016; Rusch, 2012; Turnhout & de Lijster, 2014). While ESV techniques are arguably well established from an economic point of view, they are only recently started to be considered for underpinning decision making

(Chaudhary, 2015, p.25), also in Norway. In this setting, this master thesis aims at investigating the adoption of the concept of ESV in Norwegian policy.

Being a recent approach, the ES approach has only in the latest decades come into the policy debates and the policy process, thus leading to the mainstream integration of this approach in national policy is thus of considerable interest (Chaudhary, 2015; Hynes et al. 2018; Rusch, 2012). This research contributes to filling this knowledge-gap and the choice of Norway is based on the country's unique approach to environmental policy, law and promotion of human-environment relations as set out in the literature review (Fæhn et al., 2017; Strand et al., 2017; Aslaksen et al., 2013). First, Norway's relation to nature is characterized by their controversial relations to natural resources, as set out in the next sections (Torvik, 2009). Second, its important position in developing the approach of ESV and environmental policy have both international and national impacts (Strand et al., 2017, p.483; Aslaksen et al., 2013; Lovdata, 2009, The Norwegian constitution, article 110b). And third, by its powerful human-environment relation through for example its "allemansretten" policy, which allows all people to enjoy public nature freely, and in Norway this liberty can only be hindered by property issues and conservation purposes (Daugstad, Svarstad & Vistad, 2006). Hence, this makes Norway an interesting country to study this particular policy process.

This inquiry concerns the evolution of the incorporation of Ecosystem Service Approach in Norwegian environmental policy. Its purpose is to identify several time frames during which the concept gained momentum and was integrated, in order to understand how the framing through discourses impacted the integration in policy. The social constructivist perspective is adopted for this thesis through its focus on the perception of environmental problems as described by Blaikie (2010). In this view, the idea of a group or population has about the ES is shaped by discourses and expressed through discourses that by ways of interaction shaped Norwegian environmental policy as it exists today, and this is why Hajer's research framework (1995) for doing discourse analysis is used together with Braun & Clarke (2006) methods for doing thematic analysis. Indeed, on the one hand, understanding of discourses and their formation through Hajer's method helps us understand the process of how Norwegian environmental discourses and strategies regarding the ES approach have shaped the integration of the latter approach. On the other hand, the thematic analysis allows for identifying patterns in the data in a less restrictive methodological framework (Ibid), which helps capture the broader spectrum of perspectives regarding ES as a strategy for Norwegian environmental policy and to be able to engage with the following research question:

What are the narratives upon which Ecosystem Service Valuation (ESV) is integrated as a strategy in Norwegian policy?

For addressing the above research question, the following questions will guide and frame the analysis.

- What are the different perspectives and interpretations of the term ES in the political sphere in Norway?
- What is the current policy framework around this concept in Norway and how has it been formed?
- Which discourses regarding the ecosystem service approach have led to changes in Norwegian environmental policy.

To understand the contextual elements that led to the evolution of Norwegian environmental policy regarding the ES approach will be investigated

- Which external/international factors influence the Norwegian environmental policy strategy?
- Which groups carry the debate and what are the different positions adopted and by who are they shared?

This thesis is structured to first start with the literature review which sets out the overall stakes and debate related to environmental discourses concerning ES. With this backdrop, the concepts related to and opposed to the Ecosystem Service approach will be set out as well as the philosophical assumptions on which they are built. Key contextual elements will also be explained to provide deeper insight into the concept and allow to recontextualise the discursive elements later on in the analysis - as suggested in Hajers research approach (1995).

Then, in chapter 2 the theoretical and conceptual framework are set out to provide a comprehensive basis which helps to address the research question. Hajer's argumentative discourse analysis (1995) will be applied along with doing a thematic analysis (Braun & Clarke, 2006) to respond to the above research questions, thus the salient points from both approaches are set out in this section 2.

Chapter 3 sets out the methodological design, where the research approach is set out to along with the strategy for data collection, reduction, coding and analysis. Indeed this section sets out that the analysis was done of both documents (both formal and informal) as well as interviews

of both policymaker and academics as there is a fine line between the research and policy in this field (Chaudhary et al., 2015). For efficiency matters, only the direct stakeholder to the development of this approach was interviewed and they are mostly within the expert committee that came to create the report NOU 2013:10 or within related agencies. While the interviews opened the research to the different perspectives and allowed for the identification of the main moments of integration of ES approach as a strategy for environmental policy, the document analysis allowed for having contrasted perspectives and the textual bases and conclusions upon which Norwegian environmental policy related to the ES approach (Hajer, 1995). Indeed as interviews reflect one person's individual perspective, documents reflect more the discourse and the agreed line of thought of a particular group (Chaudhary et al. 2015). Such triangulation allows for having multiple points of views and different sources of information.

Chapter 4 sets out the findings which are presented first in a timeline perspective which marks the evolution of the ES perspective in Norwegian environmental policy. Then thematic analysis will allow for setting out the main debated points, strategies and discourses of the different parties that led to such an approach (Braun & Clarke, 2006).

Finally, in chapter 5, the theoretical contribution will be discussed against the backdrop of international and national academic debate on the topic. This discussion engages with the debate on the ES approach as a strategy to maximize social welfare in Norway, the methodological challenges that the ES approach is notorious for bringing along and the policy implications of such discourses. The question on whether the ES approach is part of disintegrating Norwegian environmental policy is there also addressed.

1 Literature and context review

In this section, different concepts and their interrelations in regard to the ES approach will be explored and discussed. This will offer a necessary backdrop for the analysis as it provides a context for recontextualising the identified discourses.

In order to illustrate the importance of the different actors in the policymaking, one can look at the different stages of the public policy cycle in figure 3 hereunder (Kern & Rogge, 2018; McCormick, 2018).

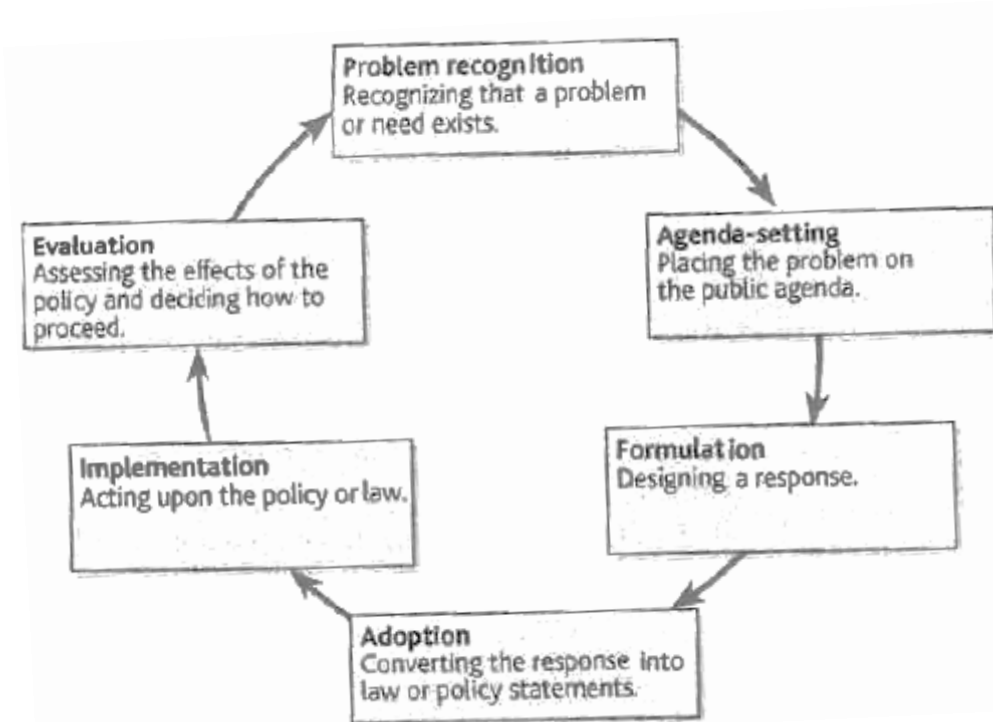


Figure 3: “The public policy cycle” (McCormick, 2018, p.50)

Norway has a centralized form of policy-making and municipality priorities and agendas are determined nationally generally when it comes to environmental policies (Næss et al., 2005). Indeed, Næss states that “national guidelines for a range of policy issues determine a standard for local policies” (Næss et al., 2005, p.128). The public policy process is non-linear and some stages can occur simultaneously or in a different order (McCormick, 2018). While the “problem recognition” (as in policy cycle terms – Mc Cormick, 2018) can often be done from a local level, “formulation” and “adoption” of environmental policy will often be decided on a national level and implemented locally (as in policy cycle terms – Mc Cormick, 2018; Næss et al., 2005). Næss et al. (2005) also argue that Norway is reluctant to introduce new policy solutions in the environmental field (p.128). Economic instruments are amongst the policy solutions that could

bring a solution to environmental problems (McCormick, 2018). The environmental problem here discussed is the fact that nature is not valued and thus not protected, in this setting the next section investigates the debate around the potential of economic instruments to estimate the value of nature.

1.1 Can current economic instruments capture the full value of nature?

In this subsection, the debate about markers of value for valuing nature will be investigated, followed by a discussion on cost-benefit analysis, as it is a commonly used option for using the value of nature in decision making (Wegner & Pascual, 2011). Finally, alternative economic instruments will be discussed with the purpose of identifying the debate around other policy solutions using tools from the discipline of economics.

1.1.1 The emergence and institutional context

According to Chaudhary et al. (2015), environmental concerns relating to human dependence on ecosystems have existed through history, but with Carson's "Silent Spring" (1962) concerns started coming on the agenda again. Indeed, as Chaudhary et al. (2015) set out, the idea of the necessity of valuation of ecosystem services emerged gradually, and the concept resurged in the late 80s and primarily involved ecologists and economists (Chaudhary et al., 2015, p.28).

Different agencies, institutional reports and initiatives relate to ecosystem service valuation, notably the MEA (Millennium Ecosystem Assessment) Synthesis report in 2005, TEEB (The Economics of Ecosystems and Biodiversity (TEEB) in 2010 and IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) in 2012 (Diehl et al., 2016, p.7). Diehl et al. (2016) also reports the lack of conceptual clarity around ESV and argues that "MEA and its associated outputs have resulted in nuanced conceptual models" (p.13). However, the Norwegian Environmental agency reports that they promote methods and instruments to support ESV (Miljødirektoratet, 2013a; 2013b). Aslaksen et al. (2015) argue that the later international projects are important approaches to bridge Ecology and Socio-economic analyses and to emphasise on the value of nature. The MEA is often referred back to as one of the first milestones of integrating this approach, it sets the basis by setting a framework that identifies different type of Ecosystem services such as (MEA, 2005).

- Cultural – cultural value of nature, for example as a landscape, and recreational purposes (Aslaksen, 2015)

- provisioning directly concern nature, such as fish provision, but also the biological heritage of animals and plants that can be used for medical advances (Aslaksen, 2015)
- regulating - ex: pollination and flood control - (Aslaksen, 2015)
- supporting – ex: habitat formation, preservation and food chains- (Aslaksen, 2015)

The TEEB project does not acknowledge supporting ecosystem services set out in the MEA (2005) framework here above; but rather sees that they underpin the others (Aslaksen, 2015). Wegner & Pascual (2011) also set out that there was the creation of software called “Integrated Valuation of Ecosystem Services and Trade-offs’ (InVEST) “(p.493), this was part of the TEEB initiative which allowed for valuation of ES.

The ES approach evolved over the years, today one of the most common ways in which to see the value streams coming from nature can be represented as in the figure here below:

Figure 2. The ecosystem services approach

Source: Based on Maes 2013.

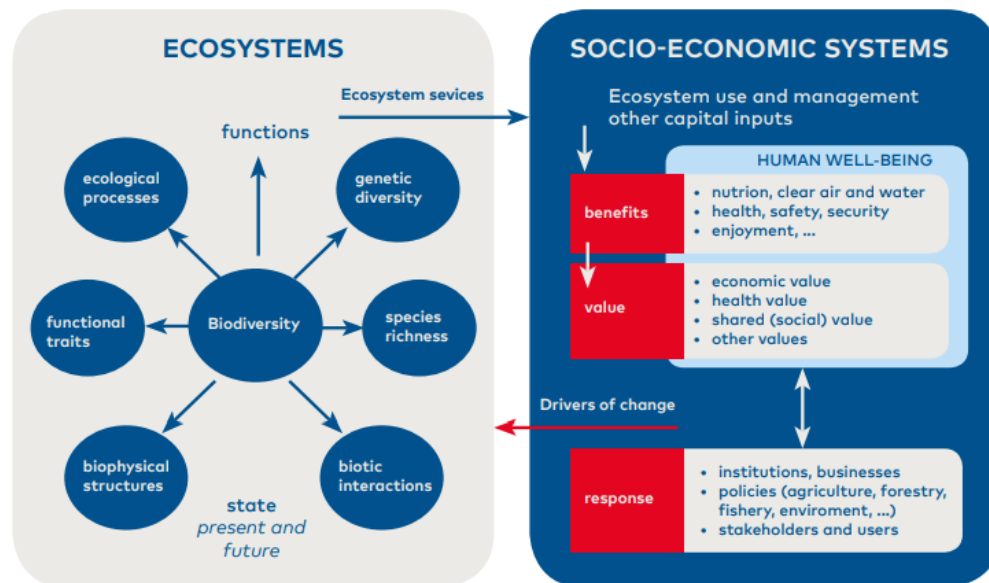


Figure 1 “The Ecosystem service approach3 (Magnussen & Dombu, 2019,p.17)

1.1.2 Reach of economic instruments for valuation

In many academic fields such as environmental economics as well as conservation economics, a lot of research has been about “economic instruments for nature conservation” (Rode et al., 2016, p.36) ranging from taxes (such as the Pigouvian tax on externalities), subsidies and other

incentives that aimed at protecting the critical ecosystems on which human welfare depends (Rode et al., 2016). They argue that international initiative such as The Economics of Ecosystems and Biodiversity (TEEB) and the Millennium Ecosystem Assessment (MEA) gave rise to the approach they qualify as “ecosystem services-human wellbeing nexus” (p.35) and they argue that these projects aim to apprehend the value of nature for informed decision making (Ibid). However, methods and approaches are heterogeneous ranging from “valuation through cost-based, revealed and stated preference methods” (Wegner & Pascual, 2011, p.497), as the idea is to put a value in terms of money on services from nature that are free but have value. In this setting, the revealed preference method can be defined as “looking at the preferences of consumers for other marketed goods that are linked to the ecosystem service to be valued” (Wegner & Pascual, 2011, p.497) and “stated preference methods” is by “hypothesizing an artificial market for it [for the service provided by the free but valuable ecosystem]” (Wegner & Pascual, 2011, p.497), in this setting Willingness to Pay is an indicator of value.

However, stated preference using “willingness to pay” as an indicator of value is criticized for being “firmly rooted in neoclassical economic theory, which conceives of human well-being in terms of utility (or preference satisfaction)” (Wegner & Pascual, 2011, p.492-493). Critics of the approach argue that this indicator is highly individualistic as it only sees the total value as the sum of individual values (Wegner & Pascual, 2011). Wegner & Pascual (2011) also report that there are many other “theories of value articulation” (p.494) than an anthropocentric one including “altruistic and intrinsic value” (Wegner & Pascual, 2011, p.495). The latter argue that current economic instruments struggle to capture to struggle the full range of value of nature. This suggests that the economic approach to value estimation is limited due to the nature of economics itself, as such because utility seems to be a contested topic.

1.1.3 Valuation methods and economic instruments

This subsection begins by exploring the challenges around the cost-benefit approach which encompasses the ES approach and moves to a discussion on the other most prominent economic instruments underpinning the ES approach.

Cost-benefit is a commonly used economic instrument for helping decision making based on often diverse valuation methods, mentioned in the previous subsection (Nyborg, 2012). Cost-based methods are defined as “estimating the costs that would be incurred if the service were degraded and needed to be either restored or recreated artificially” (Wegner & Pascual, 2011,

p.497). In this setting, Wegner & Pascual (2011) explain the value obtained by these methods are added up and used in the balance of the cost-benefit analysis along with other monetary value, that could, for example, occur by using or degrading that ecosystem services. They argue that this is highly problematic for different reasons and some of these are problems related to the intertemporal of decision making the view some have of nature has having intrinsic value which makes those not comparable to market products. Another limitation is that the losses by some are wins for others and it is not exactly known who bears the losses in advance (Wegner & Pascual, 2011). Probably the most striking limitation is that preferences depend to the context and culture, so these along with the political and economic context can influence and create preference that can then vary in time (Wegner & Pascual, 2011, p.498). Proponents of the approach argue that the use of “cost-benefit analysis to ecosystem services” still receives a lot of support, both for the baking of political decision as well as in the academic field for the four-following reason “(i) expediency, (ii) democracy, (iii) value-neutrality, and (iv) inescapability of tradeoffs.” (Wegner & Pascual, 2011, p.500). However, with the reason of “expediency”[mentioned here above], Wegner & Pascual (2011) also acknowledge the easy applicability of the ecosystem service approach and the fact that it allows using markets even with non-marketable goods (ecosystem service in this case).

With “democracy”, Wegner & Pascual (2011) report the argument that the preferences of everyone are considered but they comment that only in a narrow version of democratising the decision is the simple sum of all preference as these are not separate from one another but interact with one another, for example through campaigns or debate, moreover, individuals do not always have all knowledge at hand to make a decision.

Wegner & Pascual (2011) also contest the argument of value-neutrality by which cost-benefit analysis is in part appreciated. They argue that in a valuation of ecosystem services, a lot of decisions on the analysis are made based on one’s biases, culture and ideology, they give the example of the area being used to interview people on their preference, and the interest rate used in the calculations, peoples tolerance to risk or solidarity with future generation (Wegner & Pascual, 2011, p.501). Wegner & Pascual (2011) argue that cost-benefit analysis can only be useful and accurate enough, in the best of cases “to examine local projects that have a marginal and spatiotemporally limited impact” (p.502), thus arguing the applicability is limited, and thus, alternative frameworks have emerged.

Rode et al (2016) report that the instrument named “Payments for ecosystem services (PES)” (p.35) is an instrument based on ESV that became prominent, however, this does not come without critic either (Wegner & Pascual, 2011). Rode et al (2016) argue that to the academic division about the instruments and the constant search for more tools, confusion has risen in the sphere of “practical policy and management levels” (p.36) and they argue that economic valuation is not the same as a policy instrument, but rather an approach to inform decision making (Rode et al., 2016, p.36) and thus the ES concept as an approach can be used combining multiple methods.

Amongst the popular frameworks for assessing the value of ecosystem services, Payment for ecosystem services is directly effectuated with a conservation purpose (Pirard, 2012). It is often described as an alternative to the “polluter pays principle” where, as the title indicates, polluting is punished with a task; payment for ecosystem services rewards voluntary conservation for the value estimated of the services of the preserved ecosystem provide, it falls under the UNDP category “financing solutions for sustainable development” (UNDP, 2019).

Pirard (2012) reviews market-based instruments such as “payments for ecosystem services, taxes and subsidies, mitigation or species banking, certification, etc.” (p.59) and he insists on that many others exist, but he questions whether these approaches can make markets more efficient. He continues by saying that market-based instrument such as PES do not permit to attain an environmental management that would be best serving society as they are both ineffective in conveying value and costly.

An economic valuation can take different forms and the debated on which ones are more suited for capturing free services from nature is still ongoing in academics while some methods have been adopted by institutions and agencies. As seen, the underlying principle of the economic discipline has also been questioned in the debate about valuation.

1.2 How can methodological challenges to economic valuation of ES be overcome?

The ES approach is presented by some as a solution for integrating the value of nature into decision making, where different tools from economics can assist in reaching this goal. Erwin, López-Legentil & Schuhmann (2010) define the aims of ESV as follows:

“Ecosystem services valuation aims to first demonstrate the existence of sufficient biodiversity value to promote conservation initiatives, and second, to show how to capture appropriate enough to compensate for the opportunity costs of conservation” (p.450).

The definition here above sets out a rather quantitative approach and tools like PES and cost-benefit analysis have been criticised from having a quantitative approach, often associated with monetary valuation (Nyborg, 2014). There are different types of ecosystem services and different methods for estimating their value whether it is monetary or not (Loomis et al, 2010; Erwin et al., 2010) and the purpose of valuation often plays a role in the method used and each approach has challenges to their own.

1.2.1 Economic instruments and the controversy of monetary valuation

A key part of the debate around the ES approach regards the ways they are appreciated and on which grounds they are valued (Rode et al., 2016). Indeed, as each approach has methodological challenges of their own, one example concerns calculating the total value of discovery in the pharmaceutical fields that follow from research on biodiversity (Erwin et al., 2010 p.446). This can be problematic in the context of where one cannot calculate future values with certainty (Ibid.). Another example is the valuation of aesthetic and cultural values from landscapes (Morse-Jones, 2012). For instance, different cultures have different perceptions of the value of ecosystems due to different ontological assumptions (Hynes et al., 2018). A central question is about the inclusion of different perspective and inter-temporality. Indeed, other critics suggest that ESV methods are often deemed to be incomplete, influenced by assumptions related to the current epoch-dependent paradigm, based on the assumption that everything that has value can be named in money terms (Boyd, 2011, p.180-185). In response to this critic Boyd (2011) reports that it is also possible to “quantify nature’s economic benefits without dollar” (p.185), one of the approaches mentioned is the “ecosystem benefit indicator EBI” (Boyd, 2011, p.186)

which describe the equivalence of the value of ecosystem services in more approachable language, but this does not permit direct comparison (Boyd, 2011, p.185-186). As such, one central point of debate is one of which market of value to use – whether it be money or not–.

A few of the tools for the valuation of ES are discussed here below.

1.2.2 Tools of the ES approach and ontological assumptions

Environmental sustainability is of the three dimensions of sustainable development, along with social and economic prosperity (Basiago, 1999). The ES approach is often characterised as a constituent of what is called “environmental sustainability” which requires “maintaining natural capital” (Basiago, 1999, p.150) meaning not more of nature can be destroyed than can be restored by itself. Cost-benefit analysis is a tool from economics which plots cost against the benefits of certain projects or measures (Nyborg, 2014). Wegner & Pascual (2011) investigated “Cost-benefit analysis in the context of ecosystem services for human well-being” (p.492) and they argue that when this cost-benefit analysis is :

“applied to public ecosystem services, the theoretical assumptions that underlie economic valuation and cost-benefit analysis fail to fully acknowledge the multiple dimensions of human well-being, the plural forms of value articulation, the complex nature of ecosystems, the distributional biases of markets and the fairness implications of spatiotemporal framing” (Wegner & Pascual, 2011, p.492).

They argue that this limitation is due to a narrow form of utilitarian approach and that a broader and more adaptable to a local level but they argue that it is value loaded and the use of such a method is not neutral as it takes an anthropocentric view on nature (Wegner & Pascual, 2011, p.493). Utility is in this way not seen as “overall wellbeing” as the following statement testifies:

“results from environmental psychology confirm that ecosystems have relevance to human well-being far beyond the satisfaction of preferences, including a strong bearing on psychological health, social integration and socio-cultural identity” (p. 493).

While some argue that such a quantitative approach to valuation might be the only way to reach concrete integration of the value of nature in decision making (PBL, 2014), the statement hereabove implies that the tool of cost-benefit analysis within the ES approach does not permit to provides an analysis that allows reaching social optimum decision (Wegner & Pascual, 2011). In this setting, economic tools offer ways of valuating services from nature for their

economic value, but how and what to value is still debated, especially in the setting of that some deem that these valuations are highly influenced by political views, instead of being a tool for making informed decisions.

1.3 Does Norway's relationship to the natural environment influence ESV

Norway has a particular history of environmental thinking and research on environmental management (Reed & Rothenberg, 1992). One example of this is the research of Nyborg (2014) on cost-impact analysis as an alternative to cost-benefit analysis as the first arguably does not encompass unpredictability of future values and the related uncertainties. While cost-benefit analysis offers a quantitative tool, the cost impact analysis could contribute by allowing for more qualitative assessment using a combination of methods looking at the social benefit -in this case from ES- rather than comparing it to the value of the damage (Nyborg, 2014). This perspective and other Norwegian perspectives on valuation will be discussed along with the evolution of Norwegian lines of environmental thinking. A salient point emerging from this literature review is that some of Norwegian's environmental thinking has been influential in developing certain approaches internationally (Rosa & Silva, 2005; Reed & Rothenberg, 1992; Basiago, 1999) which in turn raises the question of to which extend the tradition of environmental thinking has influenced the development of environmental policy related to the ES approach.

1.3.1 Norwegian perspectives on environmental thinking

Bortolotti (2008) points out that all philosopher do not agree that ethics plays a role in philosophy as some argue that it is more of the realm of preference. However here below the environmental philosophy and ethics are going to be discussed in an ethical perspective in terms of individual worldviews of peoples preferences referring to some of the "theories of environmental ethics" set out by Rosa & Silva (2005, p.111) while acknowledging that there are other theories that will not be discussed due to the focus on the most prominent ones.

Deep ecology is a movement developed by Arne Naess who started publishing on it in the 1970s and it contrasts with ecology – which is a biology discipline – as according to this it goes deeper with a philosophy that sees humans in the environment as a whole and where living entities

have values for themselves as opposed to values to humans only (Reed & Rothenberg, 1992, p.69-73). In this fashion, he built on the idea that nature has intrinsic value and non-utilitarian view of nature and opposes itself to a form of Anthropocentric view of environmentalism “*shallow ecology movement*” (as in Arne Naess term) which is only focused on preserving the environment for the welfare to humans (Reed & Rothenberg, 1992). In this fashion Deep ecology has interest in wilderness preservation and see that human for the sake of economic development have no rights to reduce natural “wealth” (Reed & Rothenberg, 1992) and make the distinction between quality of life and standards of living which is according to the movement, respectively an anthropocentric and materialistic way to see the world (Ibid).

In contrast to this movement, sustainable development developed from Norway and became prominent internationally (Ibid). Kopnina (2012) reports that sustainable development is in many ways of what Arne Naess called “shallow ecology”. She argues that this type of thinking also leads to speciesism which is alarming as it is not addressed almost anywhere while at least racism and sexism are addressed in some countries. She claims that :

ecocentric thinker “argue that if moral considerations underlying present-day social issues such as racism, sexism, and wealth inequality are to be extended to other species” (Kopnina, 2012, p.239)

Gro Harlem Brundtland who was Norwegian was the chairman UN’s World Commission on Environment and Development reintroduced the term of sustainable development and made the term known to the greater public (Basiago, 1999, p.148). Basiago explains that this new paradigm has 3 forms of sustainability which are interconnected and are supposed to form synergies around “Economic Sustainability, Social Sustainability, Environmental sustainability” (Basiago, 1999, p.149). Sustainable development discourse expressed the idea that it is synergetic for all parties (Hugé et al., 2013).

Dryzek’s (1997) reflects the idea that limits are not integrated into the concept of sustainable development controversial in regard to the objective it attempts to achieve. However, Langhelle sets out that limits are integrated into the Our common future text as being “the availability of energy, and the biosphere’s capacity to absorb the by-products of energy use” (Langhelle, 2010, p.311). However, while sustainable development integrates different terms and aspects giving dimension to the concept, some argue that there are necessary distinctions to be made. For example, regarding Sustainable development and ecological modernization (Langhelle, 2010). In this setting he argues that how you frame goals and targets of environmental policy matters.

In this regard, ecological modernisation will be discussed as it was set out that it was an emerging paradigm in environmental policy (Hajer, 1995). Langhelle which wrote his article in (2010) reports that the current paradigm in Norway up until the date of writing of his article seems to have been ecological modernization.

Ecological modernisation concerns small incremental changes (often technological and sometimes technocratic) in the use and production making processes more environmentally friendly, but Langhelle (2010) argues this concept is too narrow to have an effective environmental policy. Langhelle argues that on the other hand sustainable development requires a more profound change. Langhelle (2010) also reports that Christoff (1996) found there was a weak and strong version of ecological modernisation. The concept of ecological modernisation encompasses the idea that it is productive to deal with environmental problems – amongst others to prevent future loss of money- (Langhelle, 2010). Also, the concept claims that it can be an industrial strategy to go green (create or transform products to be “more green”). Langhelle (2010, p.306) refers to Dryzek when additionally claiming that ecological modernisation reflects the idea that :

“An unpolluted and aesthetically pleasing environment may give more productive, healthier and happier workers” (Dryzek, 1997, p.142)

Langhelle (2010) sets out a couple of similarities between the two concepts, like the underpinning anthropocentric worldview the two concepts share. Also, Langhelle (2010) reports that Ecological modernization is lacking the idea that countries are increasingly dependent on each other ecologically, the very idea which was present in the concept of sustainable development as reported by Our common future.

1.3.2 Underlying principles of environmental policy goals

While sustainable development has a global focus, ecological modernisation takes place on the local or national level in its deployment (Langhelle, 2010). In this setting Stenmark (2002) argues that there are differences amongst “anthropocentrism and non-anthropocentrism” (p.135) and amongst the non-anthropocentric figure the “biocentrists, and ecocentrists” (p.135). In environmental conservation, the anthropocentric view can be summarised as “vision more focused on conserving nature for saving human well-being, represented for instance by the ecosystem services approach” (Morelli, 2016, p.101) and the biocentric view can be summarized as the view that deems it “to protect species and ecosystems due to their intrinsic values” (Morelli, 2016, p.101). Ecocentrism differs from Biocentrism by its holistic approach

and biocentrism emphasises more on the equal value between living entities - be they human or not – and the holistic approach of ecocentrism is more a system approach where a certain hierarchy is in place in terms that some elements have more disastrous consequences for the whole when destroyed (Rosa & Da Silva, 2005). According to the latter, these impact policymaking in the following way:

Theory	“Strong” version	“Weak” version
<i>ANTHROPOCENTRISM</i>		
Use nature in such a way that...	... the needs and interests of existing humans are satisfied...	... without compromising the fulfillment of the needs and interests of future generations.
	<i>Paradigm: socio-economic development</i>	<i>Paradigm: sustainable development</i>
<i>BIOCENTRISM</i>		
Ensure that the human use of nature...	... does not violate the needs, interests or rights of other living beings...	... unless vital human needs are at stake.
	<i>Paradigm: egalitarian biocentrism (Taylor, 1986)</i>	<i>Paradigm: biocentric individualism (Varner, 1998)</i>
<i>ECOCENTRISM</i>		
Ensure that the human use of nature...	... does not violate the integrity, stability and flourishing of species and ecosystems...	... unless vital human needs are at stake.
	<i>Paradigm: land ethic (Leopold, 1949)</i>	<i>Paradigm: systemic ecocentrism (Rolston, 1989)</i>

Figure 2 “Theories versus environmental policy goals (Rosa & Silva, 2005, p.111).

While some of the concepts developed in Norway regarding nature management -deep ecology, sustainable development- have never been fully implemented in Norwegian environmental policy, it is clear that some of the theoretical movements such as deep ecology have a strong leaning to integrating intrinsic values of nature (Reed & Rothenberg ,1992; Langhelle, 2000). Thus these have a more qualitative approach to nature management as opposed to an economic approach in integrating the value of nature in decision making (Ibid). Incremental improvements in the more effective use as Nature as a resource have been prioritized in Norway in line with the ecological modernisation approach (McWhinney, 2013) and Norway has had a more qualitative view on valuation of nature (Nyborg, 2014). Reed & Rothenberg (1992) also link the Norwegian environmentalist past as being opposed to hydropower dams to becoming more broader with Deep ecology to not see it as different places to protect but to see it as a

whole. However, they think that “the relatively pristine condition of Norwegian nature is probably as much a result of a low population density as of an enlightened environmental ethic.” (Reed & Rothenberg, 1992, p.5). But also this is contested now as the area left with pristine nature in Norway is relatively low and shrinking (Miljødirektoratet, 2018). Thus environmental condition is more valued for the quality of some particular places rather than the quantity preserved (Rothenberg, 1992; Miljødirektoratet, 2018) is one of the strong points raised in the debate.

This discussion around organizing principles of the Norwegian environmental policy goals highlights the anthropocentric worldview around which environmental policy has been developed. While other ways of thinking about the environment exist in Norway, current environmental policy has been directed overall towards looking at human-environmental relationship through the lens of utility one gets from the natural environment.

2 Theoretical and conceptual framework

There are different approaches on how to analyse a public policy process (Hewitt, 2009). From the literature review, it is identified that the integration of the ES approach in decision making is clearly linked to controversies over ES and their valuation (Chaudhary, 2015; Hynes, 2018; O'Hara, 1995). In this setting, Hajer's perspective on how to do a discourse analysis is most suited for the identification of the concealed dispute over concepts and it allows for effective identification and tracing of this public environmental policy process (Hajer, 1995). In his perspective, useful analytical concepts are 'story-lines' and 'discourse coalition' (Hajer, 1995; Hewitt, 2009) which allow for the use of theory to interpret the data and therewith offering a form of explanation which is interpretative (as in the terms of Neuman, 2013). The framework being somewhat rigid and Kern & Rogge (2008) report that the method is limited for allowing an analysis of the wider governmental context. In this research, this limitation aims to be overcome by combining it with thematic analysis, which offers a more flexible approach (Braun & Clarke, 2006) which was useful for analysing the wider context and linking it to the discourses.

2.1 Discourses and policy process

Hajer defines discourse as

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

Hajer (1995) argues that his research framework uses the perspective of constructivism, and in this perspective, observation of how some actors successfully manage to impose their version of the definition of concepts is key to analyse and interpret how and which concepts are integrated during the policy formation process (1995, p.42).

As opposed to Dryzek (1997), Hajer (1995) argues that discourses are not always coherent, and as in contrast with 'everyday language' meaning of discourse, in social science, this here implies understanding the context, content and the consequences of different forms of communication (1995, p.44). Hajer's (1995) starting point when analysing a statement is to see who made the statement, in which context and with which purpose (p.44). Indeed, Hewitt

(2009) argues that in Hajer's approach, both content and context should be studied and interpreted (p.2). However, Kern & Rogge (2018) report that while Hajer's approach does well in showing the importance of arguments in public policy process, it is weak on providing the external context in which the political struggles occur (p.108). However, according to Kern and Rogge, the theoretical framework Hajer sets out has been "empirically validated in different policy fields and regions" (Kern & Rogge, 2018, p.103) and can thus be used while taking precaution of maintaining the quality of the study by ensuring reliability and validity.

2.2 Environmental discourses and metaphors

Hajer (1995) argues that different viewpoint influences a public debate about an environmental problem and in this context, it is interesting to analyse discourses in order to understand better the policy process (p.45). He takes the example of acid rain and argues that there is not even "a single unified natural science discourse" (Hajer, 1995, p.45) and that above all competencies in other fields - such as economics - are necessary for "question of cost, abatement technique, analysis of social and economic repercussions[...] ethical questions concerning fairness and attribution of the blame and responsibility" (1995, p.45).

Meadowcroft & Fiorino also emphasizes political disputes are often closely related to competing views over reality (2017, p.1), especially as it comes to environmental linked conflicts (Hajer, 1995, p.43). Hajer suggests that there is a paradox that there seems to be a widespread agreement around environmental issues and how to manage them, but that in reality "the political conflict is hidden" (1995, p.43). The "hidden" part relies upon what is discussed or not and which terms are used, meaning that the implicit is very important to analyse (Hajer, 1995, p.43). This relates to his concept of 'metaphor' set out in his "10 steps" (Hajer, 2006, p.73-74) and is a useful analytical tool that can be used for analysed taking into account the theory set out in "The Emergence of Metaphor in Discourse" by Cameron & Deignan (2006).

2.3 Storylines

Hajer refers to the work of Davies and Harré *“Positioning: The Discursive Production of Selves”* (1990), who according to him defined the concept of ‘story-line’, which he interprets as follows:

“a generative sort of narrative that allows actors to draw upon various discursive categories to give meaning to specific physical or social phenomenon” (Hajer, 1995, p.56)

He argues that storylines are essential for understanding political change as he argues that the latter takes place “through the emergence of new storylines that re-order understanding” (Hajer, 1995, p.56). In his perspective of argumentative discourse analysis, Hajer explains that “the power of storylines is essentially based on the idea that it sounds right” (1995, p.63). He argues that these storylines do “clustering of knowledge, the positioning of actors, and, ultimately in the creation of coalitions amongst the actors of a given domain” (Hajer, 1995, p.63) and are according to him, this concept is very useful in assisting the interpretation of the data to explore and understand changes in the policy process (Hajer, 1995).

For Hajer, there are two conditions for a discourse to become predominant: “discourse structuration” and “discourse institutionalisation” (1995, p.60-61). If actors who convey a discourse built their credibility on the use of certain theoretical concepts of discourse, then there is “discourse structuration” (1995, p.60). Hajer argues that Davies and Harré underestimate “discourse institutionalisation” (1995, p.57) and that his approach (Hajer’s) focuses on how discourses gain structure, the dynamic of story-lines and the adoption of dominant perspectives in “institutional arrangements” (Hajer, 1995, p.57). Næss et al. (2005) interpret the term institutions as “systems of rules, decision-making procedures, and programs that give rise to social practices” (p.128) while “institutional arrangements” can also take the form of agreements between institutions such as agencies, like when one of their “theoretical concepts” is “translated into concrete policy” (Hajer, 1995, p.61).

2.4 Discourse coalition

Hajer (1993) defines discourse coalition as

“A discourse coalition is the ensemble of a set of story-lines, the actors that utter these story-lines, and the practices that conform to these story-lines, all organized around a discourse.” (p.47).

Hajer (1995) argues that ‘*discourse coalitions*’ emerge through shared ‘*story-lines*’ in a specific context where discourse coalitions struggle trying “to secure support for their definition of reality” (p.59) by trying to establish “credibility, acceptability and trust” (Hajer, 1995, p.59).

In addition, Hajer argues that strength of discourse lies in its multi-interpretability, which is according to him “an essential assumption a discourse coalition approach” (1995, p.60). He takes the example of the environmental problem of acid rain, which argues that nobody can understand fully in detail because of the complexity of the many disciplines involved (Hajer, 1995, p.61). Thus Hajer (1995) argues that this requires “generate ways of reproducing e.g. scientific findings in non-scientific discourse” (p.61).

3 Methodological design

In this section, the methodology used for this research is set out which has as a starting point Hajers (1995) method for doing discourse analysis - as it is particularly appropriate for analysing environmental discourses -. This method is complemented doing thematic analysis which is a type of coding which is less rigid and allows for identification of similarities within the data (Braun & Clarke, 2006).

3.1 Research approach

This study applies an abductive research strategy (Blaikie, 2010) with the purpose of exploring the debate around the integration ES approach as a strategy for Norwegian environmental policy. Indeed, Blaikie argues that abductive research strategy is concerned with change and processes (2010, p.105). With this research strategy, the focus was to inquire into socially constructed perspectives of individuals and groups (Danermark et al. 2002, p.90-92), therefore empirical data was analysed and interpreted together with Hajer's (1995) research framework to explore the studied process (Blaikie, 2010).

The research was approached from a critical realist perspective, which regards the wider macro context – such as culture and ideology – in the analysis of power struggles between social actors, which in return can influence the structure of the wider macro context (Sorrell, 2018). In this perspective, processes were analysed as being the interaction of actors and group of actors - with different assumptions, beliefs and interests - in attaining their distinct objective (Sorrell, 2018, p.1271). Danermark et al. (2002) emphasised that critical realism is not a method but offers guidelines, those were taken on in this design.

At this point, there is required precision about the *unit* and *level* of analysis, which is “Discourses connected to Ecosystem Services”. The analysis was done of the narratives around the debate of integration of the ES approach in a Norwegian context. The analysis was conducted at a state level as this policy process take place at that *level* - as the literature review suggested (Næss et al., 2005). The time frame of this study went from the 80s until now, indeed, as one can apprehend from the literature review, interest of the integration of ESV in the policy field emerged in the 80s (Chaudhary et al., 2018, p.28).

3.2 Data selection and collection

Methods for data selection, collection and analysis were used as set out by Hajer (1993;1995; 2006) and Clarke & Braun (2006) reported in section 4, the applications of these along with the strategy used for data collection, reduction, coding and analysis are set out in the section here below. A reflection about reliability, validity and overall the quality of the study comes along at each subsection.

3.2.1 Data forms

As Hajer suggests (1995), the data was acquired from document analysis and in this thesis, these documents included policy papers, websites, news reports, letters, books, written observations. On the other hand, as Hajer suggests (1995), complementary data had to be acquired from doing interviews. These have been conducted in accordance with Hajer's approach for doing semi-structured interviews along with the semi-structured interviews by the guidelines set out by Galletta (2013) which will be used in this research both during interviews and when creating the interview guide. In parallel thematic analysis was used for coding and identifying themes and patterns within the data (Clarke & Braun, 2006).

3.2.2 Data collection

As Blaikie argues "data selection is a much broader topic than sampling" (2010, p.23) and he claims that different methods may simultaneously be used. The aim was not to generalize findings to a population but identify discourses and storylines thus data was not selected to represent the population and is thus non-representative (Blaikie, 2010).

With constructivist epistemological assumption, the reliability and validity should be considered by criteria within the latter paradigm (Healy and Perry, 2000) and this research thus requires "multiple methods of searching and gathering data" (Golafshani, 2003, p.604). Interpretations depend on the epistemological and ontological assumptions of the researcher (Danermark, 2002; Dey, 2004, p.92) and by applying different methods – for example for data collection –, researchers would find "diverse constructions of realities" (Golafshani, 2003, p.604). In this study this has been attempted with having both interviews and documents as data sources, however the data has been collected with the snowball method which doesn't allow for estimating the amount of people who see reality in a certain way. Indeed, in this research, the snowball method was used for both document collection and for finding interviewees by asking

informants to suggest other stakeholders, and interviewees also referred to important documents (Lynggaard, 2012) related to the ES approach in Norwegian policy. The project is registered and assessed by the Norwegian Centre for Research Data “NSD”(Norsk Senter for Forskningsdata) and data collection and utilisation conforms to the personal data protection laws applicable in Norway.

Hewitt (2009) argues that in Hajer’s research framework, collection and analysis of data should target and take place mainly “at the site of conflict and on the interaction between actors” (p.12). To contribute to identifying this “sites of argumentations”, this analysis made use of Google Trends which reports the attention being brought to certain keywords or topics in a given country and was used by Chaudhary et al. (2015) in their research doing “A time series and discourse-centered analysis”(p.25). This tool was not used exhaustively for identifying a debate, thematic analysis (as in the methodology reported by Braun & Clarke, 2006) was used for identifying this key moment of argumentation through both interview transcripts and document analysis.

For this kind of study, it was important to understand the context and source in which data is obtained (Blaikie, 2010, p.21). The data for this research came both from the “semi-natural setting” in the case of interviews and from “social artefact” in the case of document selection (Ibid). Blaikie argues this has an implication on how to analyse this data (2010, p.22). Indeed, the analysed documents were produced by individuals or groups for different purposes and some documents have might not be accessible for specific purposes (Blaikie, 2010). In accordance with Lynnggard’s approach, the research distinguished between primary, secondary and tertiary documents (Lynggaard, 2012, p.155) as those defined the grade to which the document was intended for the public and the intention for rendering public the document; this will also influence the accessibility of the document (Lynggaard, 2012, p.155).

A thematic analysis suggests (Braun & Clarke, 2006) that for literary text repeated parts or concept in text and recurring themes the find patterns in the data. As patterns do not mean that there is a relationship (Blaikie, 2010) but allow the analysis of the narrative in the literature (Braun & Clarke, 2006). Through the identification of 5 recurring concepts in the analysis of 3 key moments in the Norwegian environmental policy this approach was applied.

3.3 Data reduction and analysis

During the research process, the bias of both the researcher, interviewed key respondents and other biases in the data were considered, however within a critical realist approach of abductive research, the main concern is to report authentic point of views (Danermark et al., 2002) and be conscious about how biases can impact the interpretation of the researcher (Hajer, 1995; Drid, 2010; Blaikie, 2010).

3.3.1 Data reduction

Blaikie (2010) suggests to code different position by “typology construction in the Abductive research strategy” (p.208), this implied doing the coding of arguments and political positions concerning the ES approach. In the case of this research, this was done in accordance with the theoretical framework set out by Hajer (1995) and the related methods and concepts. Blaikie argues that these data reduction techniques are intertwined with the data analysis methods (2010) and indeed in this research was an iterative process.

3.3.2 Data analysis

The theoretical framework set out the finding of ‘discourses’, ‘story-lines’ and ‘discourse coalitions’ using the approach set out by Hajer (1995) and applying step 5 to step 10 from Hajer’s “ten steps of doing discourse analysis”(Hewitt, 2009, p.12) as taken from Hajer (1995, p.73-74). These steps included in this research the analysis of various data forms (Hajer, 2006, p.73-73). The context of the publication of the data was also analysed using thematic analysis which was relevant for interpreting the data.

Hajer argues that “discourse fulfils a key role in processes of political change” (Hajer, 1995, p.59). For investigating the latter, the use will be made of Hajer’s (2006) ten steps here below:

Table 1: Hajer's ten steps of doing discourse analysis

1. <i>Desk Research</i> – a first chronology and first reading of events
2. <i>'Helicopter Interviews'</i> – to gain an overview from different perspectives
3. <i>Document Analysis</i> – to identify story lines and metaphors, and the sites of discursive struggle
4. <i>Interviews with key players</i> – to enable the researcher to construct the interviewee discourses and the shifts in recognition of alternative perspectives
5. <i>Sites of argumentation</i> – search the data to account for the argumentative exchange
6. <i>Analyse for positioning effects</i> – to show how people, institutions or nation-states get caught up in an interplay
7. <i>Identify key incidents</i> – to understand the discursive dynamics and the outcomes
8. <i>Analysis of practices in particular cases of argumentation</i> – by going back to the data to see if the meaning of what is said can be related to the practices in which it was said.
9. <i>Interpretation</i> – come up with an account of the discursive structures, practices, and sites of production
10. <i>Second visit to key actors</i> – respondents should recognise some of the hidden structures of language.

Source: adapted from Hajer, 2006, p.73-74

Figure 4 “Hajers ten steps of discourse analysis” as taken from (Hewitt, 2009, p.12)

Clarke & Braun (2006) define thematic analysis as “a method for identifying, analysing and reporting patterns (themes) within data” (p.79). This is built on discourse analysis which is also interpretative in nature and allows for making the connection and hierarchising the data for interpreting patterns within the data in a different way than discourse analysis (Clarke & Braun, 2006). With thematic analysis, contextual elements were analysed, and this method was used to complement the weakness of discourse analysis set out at the beginning of this section.

4 Findings

While several discourses and storylines (as in Hajer's terms, 1995) were found during the analysis, no discourse coalitions were identified and the dominant discourse found was well structured but institutionalised to a limited extent.

As Stenmark (2002) highlights, the different discourses impact the way environmental policy is made. Indeed, similarly to Stenmark (2002), the analysis showed that different discourses built on a different school of thoughts and beliefs lead to different ways of approaching and creating environmental policy because the objectives diverge. The literature review revealed different perceptions, ideas and approaches, and these in a specific social context shapes create certain approaches and in turn made certain realities and social and political situations happen (Hajer, 1995). This process with contrasting discourses in interaction creates the environmental policy regarding the ES approach that exists today (Hajer, 1995). This section retraces this process by applying the methodological design set out in the previous section.

Indeed, the results of this analysis are set out in this section. Starting with an overall overview of the evolution of the concept through google trends, followed by the key happening around which discourse was structured and the ES-approach more integrated into the Norwegian environmental policy. The key discursive moments are the constitution change of 1992, the environmental assessment guidelines, the law on biodiversity in 2009 and the NOU2013:10 on ecosystem services and the White Papers ("Stortingsmeldingen") that derive from it.

In the second part of this section the findings are organised using different thematic around which the debate was structured and shaped the current environmental policy regarding the ES approach.

4.1 Timeline of interest in the concept

In this part, the analysis is set out about how and when discourses are shaped. Similarly to Chaudhary et al. (2015), a search of "Evolution of the interest for a concept" in Google trends shows that the moment of increased interest for the concept "økosystemtjenester"(Ecosystem services in English) takes place in 2009, and more regularly after 2011 as one can see on the graph here below.

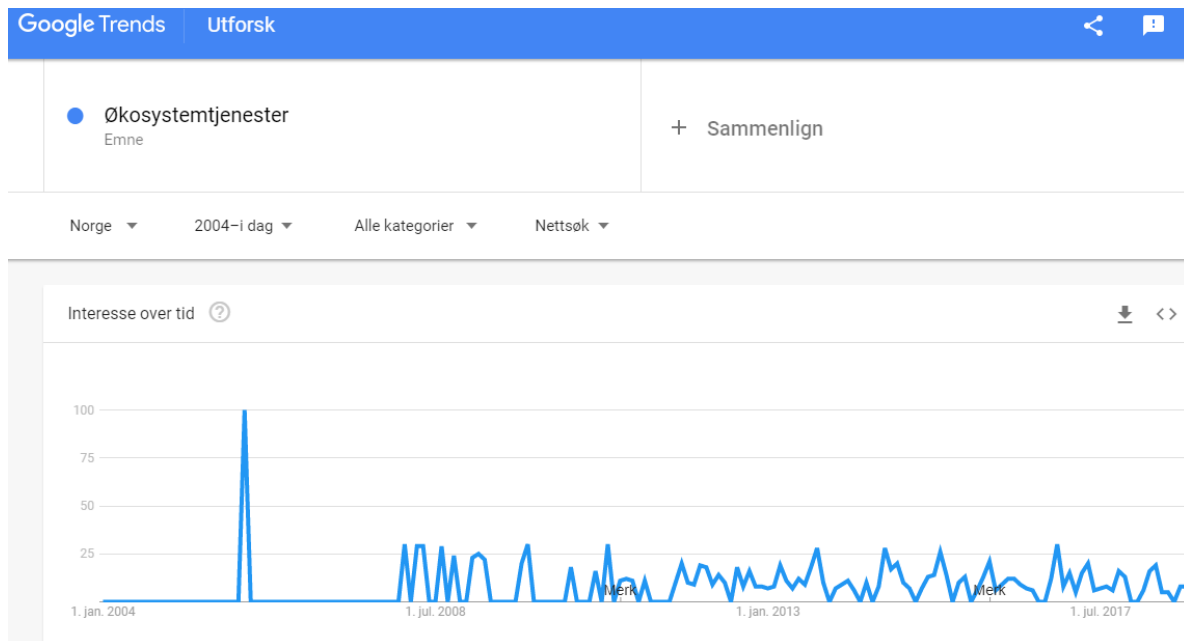


Figure 3 Google trends: Interest in the term in Norway from 2004 until now (Google trends, 2019).

Google trends limit the search to the period after 2004. These simple statistics presented hereabove by a search in Google trend are highly relevant in this setting as Hajers (1995) framework insists on the fact that the analysis should be focused on the moments of increased debate around the concept. Further document analysis and ‘helicopter interviews’ (as in Hajers terms, 1995) confirmed these dates of increased debate on the ES approach and revealed that especially after 2009 the concept became of increased interest and coincides with the dates that lead to the production of the NOU 2013:10 on ecosystem services.

4.2 Key moments of discourse structuration

These key moments result on the national policy have been shaped by the discourses and how actors position themselves around it (as in Hajers argumentative discourse analysis term’s 1995). These key moments in the last 40 years are set out in the subsections here below as being materialised through the constitution change in 1992, the instruction for environmental impact assessment (“utredningsinstrukt” in Norwegian), the law on biodiversity in 2009, and the NOU 2013 :10 on ecosystem service and the white papers that followed on the latter.

4.2.1 Constitution change 1992

As seen in the literature review, Norway has for several different reasons begun to have a different approach concerning Nature. Norway is characterised for being the country in which

philosophies of nature as heterogeneous ranging from deep ecology to sustainable development developed (Reed, P. & Rothenberg,1992). These diverse movements were followed by the institutionalisation of article 110b of the Norwegian constitution which since 1992 considered the human-environment relations through article 112:

“Every person has a right to an environment that is conducive to health and to natural surroundings whose productivity and diversity are preserved. Natural resources should be made use of on the basis of comprehensive long-term considerations whereby this right will be safeguarded for future generations as well. In order to safeguard their right in accordance with the foregoing paragraph, citizens are entitled to be informed of the state of the natural environment and of the effects of any encroachments on nature that are planned or commenced. The State authorities shall issue further provisions for the implementation of these principles.” (The constitution of the kingdom of Norway, article 110b, English version form Utenriksdepartementet [this is paragraph 112 in the actual constitution (Lovdata, 2018) which was previously 110b].

This paragraph was added in 1992 and amended in 2014 (Lovdata, 2018)

The latter paragraph explicitly states the rights of the Norwegian population to know about the state of the ecosystems relevant to their wellbeing. While the paragraph above also states the rights Norwegians have to know about possible deterioration consequently to certain decisions, then it does not provide any information regarding the methods for the protection of this Nature however explicitly mentions that the state is free regarding the methods as the following sentence indicates: “*The State authorities shall issue further provisions for the implementation of these principles.*” (The constitution of the kingdom of Norway, article 110b, English version form Utenriksdepartementet).

The constitution changes of the current paragraph 112 do not integrate the ecosystem approach in Norwegian law but sets the stage and marks a paradigm shift that allows for the integration of this approach. In the next section, the law of biodiversity, which is an important milestone for Norwegian environmental policy is analysed to see how it developed on the Ecosystem Service approach.

4.2.2 Biodiversity act 2009

In 2009, a “Biodiversity act” was approved and its purpose is the more sustainable use of nature by giving governing bodies tools to protect it (Lovdata, 2009). The Norwegian parliament sets out that this act was built on a white paper called:

“NOU 2004: 28 Act on the Conservation of Nature, Landscape and Biodiversity (the Nature Diversity Act” (translated from Norwegian; Stortinget, 2009)

They explain that this “Biodiversity act” in 2009 came about through first a bill (“lovforslag”) from the ministry of environment (“Miljøverndepartementet”) in 2008 (Stortinget, 2009). It was then attributed to the “The Energy and Environment Committee” (“Energi- og miljøkomiteen”) and the spokesman was Erling Sande (Sp) from sentrumparti after a debate it was approved in 2009 and entered in force in 2011 (Stortinget, 2009). It is noteworthy that the latter does not mention the ES approach but is currently one of the most significant acts in Norwegian environmental policy regulating environmental management, according to the informants.

4.2.3 NOU 2013: 10 on “valuation of Ecosystem Services”

The NOU 2013: 10 on “valuation of Ecosystem Services” was a key moment of discourse structuration. Indeed, this was the first important step in the integration of this concept in Norway and before and after this official report, actors tried to influence it according to their objectives and visions of reality.

In 2011, the government assigned an expert commission for investigating the thematic “Natures goods: valuation of Ecosystem Services” and this was requested by the Department of Climate and Environment (Statsministerenskontor, n.d.). With their mandate the “expert commission on the value of ecosystem services” presented in 2013 “a Norwegian Official Report (NOU) with their conclusions and recommendations to the Norwegian Minister of the Environment, Mr Bård Vegar Solhjell” (Norway exports, 2013) following which they argue that the government will “undertake a public consultation of the commission’s findings, and consider possible policy follow-up” (Norway exports, 2013). Indeed, the NOU 2013:10 is particularly telling, as an expert commission on ESV delivered a report with several policy recommendations, such as the need for more knowledge of the ecology of the places for effective socioeconomic valuation, the need for setting out the human dependence of Ecosystem Services and the need for an increased multidisciplinary approach (Statsministerenskontor, 2013).

One of the points of this reports it to see to what extent international project such as TEEB apply to Norway (Norges bondelag, 2013). As pointed out in the literature review the TEEB project itself steams from the Millennium ecosystem assessment in 2005 (Diehl et al., 2016; Miljødirektoratet, 2013a). In this setting, the categories of ES they looked into are as diverse as “categories of provisioning, regulating, cultural and supporting services” (Norway exports, 2013) with the aim to gain more knowledge on ES and the many reliance Norway as on this ES.

4.2.4 Change in guidelines for the Environmental Impact Assessment

In what is called in Norwegian “impact assessment”, the Norwegian law sets out “Regulations on impact assessments” which calls for a description of factors that could be influenced if changes would be drawn upon the environment in large projects (for example mining and oil and gas) or when public money is involved (LovData, 2017).

In 2018, the guidelines for these impact assessments started explicitly integrated the ecosystem service approach referring to NOU2013:10 for further clarification of the concepts (Statsministerenskontor, 2018; Direktoratet for økonomistyring, 2018). This change both reinforces NOU 2013: 10 and it an important milestone into the integration of the methods and the concept of the Ecosystem Service approach into the Norwegian environmental strategy. This shows in which way the dominant discourse has managed to institutionalise part on their vision of reality. The way this was done will be set out and reflected through the thematic analysis set out in the next section.

4.3 Results by thematic

In this subsection, a typology has been build concerning the key thematics to reveal the debate through the narratives use and see the influences on the policy process. The debate in Norway around ecosystem services can be distinguished in four parts. First, within the Norwegian societal model, under which perspective is the Environment really valued? one part of the debate revolves around nature just being framed as a commodity necessary to human welfare. Second, the discussion in Norwegian environmental policy reflects the controversy about the ES approach within the broader policy agenda, where it lies between synergies and rivalry. Thirdly, the debate around the methodological problematics with valuation itself will be set out, as in Norway valuation in monetary terms is quite problematic. Fourthly, the thematic of Norway's strong political encompassment to the EU and the consequence this has for the ES approach in the Norwegian environmental policy will be set out, with an outlook on potential future directions. The identified discourses are set out along with the storylines used in each debate.

4.3.1 Maximizing social benefits: the ES -approach as a strategy?

4.3.1.1 *The ES approach, the Nordic model and free market capitalism*

While Norway is not adopting one of the purest forms of neo-liberalism, it adopts a model commonly referred to as “the Nordic Model” along with its neighbouring countries which refers to the

“unique combination of free market capitalism and social benefits that have given rise to a society that enjoys a host of top-quality services, including free education and free healthcare, as well as generous, guaranteed pension payments for retirees” (McWhinney, 2013).

NOU 2013: 10 reflects this combination of interest for social benefits and market capitalism which includes the ES approach in order to maximize national wealth, it is thus underpinned by a “capitalist with regulation” narrative, in this setting it was necessary to situate the thinking behind this report in a Norwegian context market by “the Nordic model” (McWhinney, 2013), where the access to “top quality service” (as in McWhinney's terms) from the environment could be seen as just another of these social benefits which exist together with this free market capitalism. Indeed, for some informants, this -NOU 2013:10- report is indeed as a response to

the welfare degradation leading from the threat of reduced biodiversity, but it builds on other environmental policy that already integrated the idea as well as the ES approach in other parts of Norwegian environmental policy.

Indeed, in the biodiversity act of 2009 the ES approach is indirectly mentioned referring to it as a form of natural capital, this environmental capitalist view through the following paragraph:

“Genetic material obtained from the natural environment is a common resource belonging to Norwegian society” (Ministry of Climate and Environment, 2009).

4.3.1.2 Perspectives on services from the environment and NOU 2013:10

The NOU 2013: 10 led to some debate on which services to put the focus on, several narratives have been identified and the dominant discourse is put on the focus favouring recreational ES instead on the regulating ES which is related to climate change.

Where the NOU 2013: 10 suggest that some ES are critical for health and therewith economic wellbeing is a strong argument for the ES approach, there is not much debate on these positions. Some Norwegian organisation in the tourism industry commented on this perspective from the NOU 2013: 10. Indeed, DNT, (2014) explicitly support the report and its recommendations in the sense that it argues that elaborated knowledge on ecosystem services and biodiversity. They are really dependent on the recreational ecosystem services and regret this ecosystem service is not put more focus on as it is really important for the population’s health (DNT, 2014, p.3). NHO Reiselivet (2013) joins the position of DNT that the quality of the “natural capital” impacts health in the country, and they over insert that this is beneficial for the economy. Noteworthy as well is that none of the most popular Norwegian political parties -in the table in the next page - explicitly states their opinion on the ES approach. However, each has an implicit discourse in their communication that will be reported in the following table.

Political parties & the ES approach

Name of Organisation	Areas of focus	The political position of the party concerning the ES approach
Arbeiderpartiet	Creation of jobs, and a democratic health system, education.	The environment is not part of the main focus points and the ES approach is not mentioned in their communication. They have some publications about climate risk.
Høyre	Creation of jobs, growth, schooling and the defence budget are their focus.	The environment and the ES approach is not their area of focus. Some of their publications discuss the IPCC report
Fremskrittspartiet	Focus on “stricter immigration policies”, lower taxes, traditional values.	ES is not mentioned in any of their communication. While Climate and Environment are not one of their focus points they, however, argue that Norwegian ecosystems should be valued, especially for being important for the hunting and outdoor tradition of the country.
Senterpartiet	Focus on agriculture and food security. Are very much against the current H/Frp government.	Focus on food security while being undecided weather food security should be achieved preserving ES or taking into account the valuation of ES when making a decision in the field of agriculture.
Sosialistisk Venstreparti	Social justice, school system and environment.	Have organised debates, amongst other with representants of WWF Norge about the ES approach and Stein Lier Hansen who is according to the “leader of the Committee of Experts on values of ecosystem services” (Sosialistisk Venstreparti, 2014).
Venstre	Equality, populations rights, environment	Actively debate and publish on a concept. Highlight the importance of swamps both as a habitat for biodiversity protection and because its destruction can accelerate climate change
Kristelig Folkeparti	Christian party insisting on traditional family values. They focus also on what they call “international justice” is the fight against climate change	Only indirectly refer to the ES approach
Miljøpartiet De Grønne	Energy transition (climate change), immigration, animal wellbeing, circular economy	The party discourse in that nature has intrinsic value and according to them, this goes together with but beyond only the utility to humans.

		They also claim to prioritise wetlands and marches protection because of their crucial role as a habitat and because of their capacity to store pollutant gazes. Thus they value ecosystem according to their services in the broader term (including the value of Ecosystem s for combating climate change)
Rødt	Solidarity, feminism and what they interpret as equal pay comes along a lot in their discourse	Their view is that a greener and more intergenerational just society can only be built along with “crunching the oil industry” (“trapper ned oljeindustrien” Rødt (n.d.) in Norwegian). They argue common transportation is part of preserving ES.
The main political parties classified from most popular to least according to the “Party support for the 2017 parliamentary election” (NRK, 2017), the discourses are identified amongst other from the following (MDG, 2019), Venstre website (n.d.), KRF (2019), Rødt (n.d.), Sosialistisk Venstreparti (2014; 2016), Senterpartiet (2019), Fremskrittspartiet (2019), Høyre (n.d.) and Arbeiderpartiet (n.d.).		

The party change in 2013 possibly affects the impact of the NOU 2013:10 report. Indeed the report was ordered in 2011 and published in 2013 in the same year as a governmental change took place to form a left-wing oriented government to a right-wing oriented (Regjeringen, n.d.), this could have been one of the contextual elements explaining that this report has had little impact on Norwegian environmental policy.

As the NOU 2013:10 is closely linked to the maximization of social welfare it is rather surprising that there is close to no political debate on the role of the ES approach in this setting, especially related to the Nordic context where a lot of attention is put on social welfare. The contextual elements such as a change in government just after the publication of this important report help explained while it hasn’t had immediately a greater engagement around the ES approach. In the next subsection, it will be explored how biases related to how conservation is view and how value streams from nature are viewed underpin the narratives of the ES approach in Norway, especially regarding the strategy of nature conservation.

4.3.1.3 Conservation and anthropocentrism biases

In the biodiversity act of 2009, in Chapter 5 section 33 the act refers to “priority species” and “areas of special conservation value” where they incorporate the use of the ES approach where the species are valued for what they are worth to humans. Commonly, these preferred species are not the ones most important for the stability of the ecosystem but rather those who are charismatic (Morse-Jones et al., 2012). Informants 3 and 5 argued that this use of the ES approach can be problematic in Norway, as in this anthropocentric approach, the natural environment is value for its value to humans. Human preferences are thus what is regarded and conservation will be based on speciesism, which means that conservation of some animals will be preferred just because humans arbitrarily value them more (Horta, 2010), for instance in the case where they are charismatic (Morse-Jones et al., 2012). Moreover, the degree to which the biodiversity act of 2009 is anthropocentric is reflected through the following paragraph:

“natural environments that reflect human use through the ages (cultural landscapes) or that are also of historical value, and facilitation of forms of use that help to maintain biological, geological and landscape diversity” (Ministry of Climate and Environment, 2009);

Some informants have argued that the socially constructed valuation system in combination with the integration of the ES approach leads Norwegian environmental policy to be based partly on speciesism and that it does not necessarily maximize social welfare as originally attempted with this approach (McWhinney, 2013).

However, the emphasis on maximizing social welfare is quite clear in Norway (McWhinney, 2013). The narrative underpinning the ES approach hereabove converge to the same idea that nature is just one of the many ways to guaranty this maximum social welfare for Norway (Morse-Jones et al., 2012; Horta, 2010), especially when it comes to recreation – as informant 3 and 4 emphasized on –. In this setting the stance of MDG (2019) mentioned in the previous section is really telling on the difficulty to oppose to this storyline, as on one hand someone to see nature protected for its own sake, but on the other hand, the prioritization on the nature protection agenda is oriented towards the preservation of the ecosystems that have the most value to humans. This dilemma is not discussed on the national level. On a national level, less of the emphasis is directed towards the valuation of nature for its intrinsic value, possibility because “maximizing social welfare” through the ES approach is a more appealing discourse in Norway’s current socio-economic context.

Indeed, nature management and conservation in Norway are overwhelmingly directed by the biodiversity act, in 2009 (Informant 3). The discourse in this act is partly impregnated by the sustainable development discourse and has shared some of the same underpinning principles as the ES approach:

“The purpose of this Act is to protect biological, geological and landscape diversity and ecological processes through conservation and sustainable use and in such a way that the environment provides a basis for human activity, culture, health and well-being, now and in the future, including a basis for Sami culture” (Ministry of Climate and Environment, 2009)

These narratives are immediately apparent through respectively the direct use of the word “sustainable” and the term “provide” as the link of an environment and human activity (Informant 2 and 5). The intrinsic values of all living are nowhere to be mentioned in the whole biodiversity act.

While the ES approach is proposed as some as a solution for environmental management in Norway, other issues emerge regarding how the ES approach will affect decision making and commodification of nature, speciesism and the debate around the intrinsic value of nature are just some of the new challenges arising, this is not the center point of the debate concerning the ES approach. As maximizing social welfare within a free market capitalist system seems to be the priority and current paradigm in Norway (McWhinney, 2013) the ES approach is widely accepted as being part of the solution. The narratives and implication of the ES approach within the welfare maximizing agenda in Norway will now be explored relative to the challenge of climate change.

4.3.2 ES approach: local integration, global disintegration? The challenge of climate change

With the Brundtland commission report “our common future” in 1987, Norwegian politics has played a significant part in developing the integrative sustainable development approach (Langhelle, 2000). While as seen in the literature review, this approach is anthropocentric as in contrast to the deep ecology philosophy developed by Arne Naess (Kopnina, 2012). However, this sustainable development approach aims to have a broad reach and aims to create synergies between countries and between social, economic and environmental challenges (Liu et al., 2018). While the article “Nexus approaches to global sustainable development” (Liu et al., 2018) set out an integrated global top-down approach, the narratives for ES approach seem to bear out almost exactly the opposite, not so much in the goals but rather in the approach. The different narratives existing around this perspective in Norway are set out in the next subsection, focusing on how the relation the ES approach has viewed and argued for by stakeholders with respect to other societal challenge, such as climate change.

4.3.2.1 Views on the integration of the ES approach with broader societal challenges

The hydropower sector in Norway provides close to all the electricity to the country and is extremely influential (Rusten & Sunnevåg, 2003), although less than the petroleum sector in the policy sphere, as petrol is the single largest export product of the country (OECD, 2018). Several lobbies stated their positions through the comment on the NOU 2013: 10 as seen here below.

Different groups of the renewable energy industry in Norway (mostly hydroelectricity) highlight the inconsistency with NOU 2013 : 10 as they, on one hand, argue against the destruction of ecosystem services (as in when building dams for hydroelectricity) but omit that it helps in reducing climate change (which is also a threat to ecosystem services) (E-CO Energi AS, 2013). Landssamanslutninga av Vasskraftkommunar -LVK- (2014) which stand for «hydropower Municipalities» take similar standpoints as E-Co Energi AS which is to say that not all forms of hydropower have the same impact on nature, and while it may sometimes come with small local degradation in can have global benefits for the climate, therefore they view negatively the ES approach which according to them does not integrate boarder societal challenges such as climate change.

Moreover, they argue that nature conservation through the ES approach is already integrated into the law on biodiversity (2009), through the “polluter pays” principle and the precautionary principle (LVK, 2014), thus deem the ES approach unnecessary and above all incomplete (E-CO Energi AS, 2013). Similarly, Statkraft Energi As (2013) also argues that the methods are not developed enough, and reflects that the other social benefits they provide are not reflected in the report (like flood control, climate change mitigation).

In contrast to this Miljødirektoratet (2013) is very favourable to the ecosystem service valuation approach, they deem it beneficial for both setting out the value in an anthropogenic way as well as being a tool for its conservation. Miljødirektoratet (2013) explains that one of the benefits of this approach is that it has an area approach instead of protecting several species which lead to a more comprehensive approach as a single (protected species) do not survive alone, but within an area and within an ecosystem.

Similarly, Helsedirektoratet (2013) praises the socioeconomic analysis that can be done with the approaches proposed by NOU 2013: 10. In this setting, Helsedirektoratet (2013) argue that NOU 2012: 16 on Socio-economic analyses also referred back similarly to the amount of money it costs (statistically) to reduce life and health risk and that the ES approach would allow decision making for cost-effective options of enhancing human welfare.

The Hydropower sector puts forth that there is a lack of integration of the ES-approach with greater societal challenges as climate change. However, Miljødirektoratet (2013) and Helsedirektoratet (2013) argue that the ES approach allowed for broader integration with societal challenges such as human health and for a broader integration within conservation leading to more effective nature management.

4.3.2.2 Climate change: the limit of the ES approach?

As seen in the results, the Norwegian sets the ground for the ecosystem service approach by its current article 112, which translated to English, part of it is

“the State must do everything in its power, everything necessary, and with all of the means it has at its disposal, to safeguard our right to a liveable climate and environment” (CSN, 2014)

CSN (2014) also claim that the State could ensure these rights through using “policy instruments (that) are laws and regulations and taxes and duties” (CSN, 2014) and one of these

policy instruments chosen is the ES approach. Compulsory valuation of ecosystem service is primarily used now in the evaluation of projects through the integration in 2018 in the guidelines for these impact (Statsministerenskontor, 2018; Direktoratet for økonomistyring, 2018), this is highly relevant because it obliges the production of information on the quality of given ecosystem services in the making of decision about large project. In this context, CSN (2014) - who is an organisation based on membership of the scientific community - argues that in this context “*dumping mining waste in Norwegian fjords violate the Constitution*” (CSN, 2014) and CSN evokes in this setting the precautionary principle along with other drilling activities they argue that violates the constitution. These activities linked to the energy sector and mining section should today make a statement in their rapport concerning projects related to the latter activities about the ES potentially affected (Statsministerenskontor, 2018; Direktoratet for økonomistyring, 2018), this is deemed insufficient by some actors of the civil society (Informant 5).

Some environmental organisations such as Greenpeace with Nature and Youth were dissatisfied with the latter situation in regard to the state’s obligation regarding the article of the constitution cited here above. They did sue the Norwegian government for wanting to drill in the artic (BBC News, 2018. The latter argue that the granted licence (of the licencing round in 2016) “was in violation of the Paris agreement and the Norwegian constitution” (BBC News, 2018).

Archer (2005) emphasizes on the particularly important role of civil society in Norway. In fact, he argues that

“The representatives of civil society can be seen as interlocutors between nation and government, articulating the views and interests of certain parts of the nation” (p.9)

Hence, in this specific case, environmental NGOs are of interest and their positions on the ES approach can help understand the structure of the debate (Archer, 2005). Amongst the variety of environmental organisations in Norway, the most important ones are set out here below (SusNordic, 2008) with the related discourses identified in their publications:

Environmental NGOs Norway & the ES approach		
Name of Organisation	Area of focus	Statements about the ES approach through their publication
Norwegian Society for Nature Conservation <i>24,000 members</i>	Nature, energy, climate, pollution	Explicitly links the valuation of ecosystem services to the potential conservation of biodiversity. Consider how Norwegian nature conservation affects ecosystems in other countries.
Nature and Youth (affiliated to the latter) <i>7600 members</i>	Takes the same positions as the mother organisation above.	
The Future in Our Hands About <i>30000 members</i>	Both environmental and a developmental NGO	They focus on green consumption. About ES they argue that technological solutions are not enough and argue that services provided by ecosystems cannot or at least not always be replaced by technology.
WWF Norway <i>About 20000 members</i>	Environmental NGO focusing on influencing Norwegian Environmental policy	Actively lobbies for more research and for a more compulsory nature for this at a national level. Several publications are made on this focus area
The Green Warriors <i>(“Norges Miljøvernforbund”, NMF)</i>	Pollutants, climate change, endangered species ...	No publication on the matter
The Bellona Foundation	Sea use, energy and climate change	ES approach only mentioned in relation to the oil industry and the subsidies they receive. ES approach is not a priority.
Greenpeace (Norwegian entity)	Energy and climate change	Only discussed when criticizing the oil industry.
Rainforest Foundation of Norway (Regnskogfondet)	Focus on helping the population directly dependent on the rainforest by defending and to defend it	Adopts the same position as WWF regarding the studied matter, insisting here on the value of the ES provided by rainforests
List of Norwegian environmental NGOs retrieved from (SusNordic, 2008) updated with info from Naturvernforbudet (n.d.); Naturvernforbudet (2013); Framtiden i våre hender (2008), Norges Miljøvernforbund, NMF (n.d.), Ingrid Hauge (2015), Greenpeace (2014), Regnskog (2019), Natur og Ungdom (2019).		

From the previous table, the observation can be made that the organisations focusing on “climate change” do not always link this issue to a potential solution to the ES approach. The ES approach seems to be more often mentioned in case specific or local context such as oil spills and nature management of particular areas (Naturvernforbundet (n.d.); Framtiden i våre hender (2008), Norges Miljøvernforbund, NMF (n.d.), Greenpeace (2014).

Informant 3 said

“Around NOU 2013:10 some discussion about monetary valuation. There is a strong opposition to monetary valuation in Norway and even some environmental NGOs are against it. The ES approach can also convey qualitative value. But even here some environmental NGO are opposed as they don’t see it linked enough to other societal issues, such as those brought along with climate change.”

This testifies again from the diverging approach environmental NGOs in Norway have regarding ES, some NGOs who have climate change as a priority because of the social problems it brings along see the ES approach as a potential threat to a more integrated approach.

The verdict was revelatory as the Norwegian Court did not hold accountable the government for this future extraction giving the reason that the Norwegian government could not be held accountable for emissions outside of Europe (BBC News, 2018), this contributes to the discourse saying a country does not have responsibility for degradations of ecosystems caused beyond its boundaries, even though the effects will be felt on Norwegian territory as well.

However, the other part of the verdict was the judge acknowledging that this paragraph was not only symbolic, and that the population is indeed entitled to the protection of ecosystems that protects health (Hirsti for NRK, 2018). Indeed, following this analysis (Hirsti for NRK, 2018), the fact that justice can be seized is revelatory concerning the compulsory nature of this paragraph.

Some argue (Informant 5; BBC News, 2018; CSN, 2014) that this situation in Norway underlines the disintegration between the ES-approach and the broader societal challenge of climate change. Territorial disintegration is often discussed in this context as well, indeed, an ecosystem in one country is dependent on another one through the climate (Langhelle, 2010), this underlines that ES is in some cases fragmenting problems that need a global solution into local problematics that cannot be solved on that level. This is why according to Langhelle (2010) sustainable development is a more complete approach as it integrates the idea that countries are linked through the climate, in contrast, the ES-approach does not offer this

perspective in the methodologies it is currently developed. Some argue that the ES approach can be part of the solution in reaching sustainable development (Jacobs, Dendoncker, & Keune, 2014). Jacobs et al. (2014) pose it as an approach which on a local scale can contribute to solving a global problem but the finding of this subsection challenge part of this assertion and this will be further discussed in the discussion section.

As the “sustainable development storyline” seems to aim for the protection of nature should be integrated within broader economic and social challenges providing synergies (Liu et al., 2018) and is often linked with the climate change challenge, the ES approach has been apprehended in another way in Norway. Some discourses carried by the renewable energy industry in Norway related to hydropower put forth the discourse that by looking at local area conservation -such as could arguably be enhanced by the ES approach- could come at odds through this approach with the societal goal of climate change. This discourse has been carried somewhat surprisingly by some environmental NGOs with the focus on climate change. The jurisprudence in Norway from 2017 seems however to go in the way that one should not be held responsible of the emissions produced in another country even if Norway enables those emissions as some argue, by extracting petroleum (Hirsti for NRK, 2018). In this setting, the Norwegian national policy seems to go in a way that would enable on the ground implementation of the ES approach in a disintegrated way as projects and emission calculation are made locally, not taking into account international integration.

4.3.3 Methodological disputes of ES in Norway: why not monetary valuation?

As seen in the first part of the finding, the dominant discourse argues for that nature should be valued for the service it provides. The methods for evaluating the value creation, however, are widely disputed and it is in this area and different contrasting position exists. This subsection aims at revealing them and show how the Norwegian environmental strategy has shaped around it. The structuration of this discourses has happened mostly around the NOU 2013: 10 and document analysis around that time as well as interviews where telling about the different positions.

4.3.3.1 Complex methods, oversimplification and misrepresentations

The response to the publication of NOU 2013: 10 highlights the debate and the underlying narratives regarding the ES approach in Norway. Some of these discussion points are set out here below.

[4.3.3.1.1 Complex methods](#)

A contending discourse to the dominant discourse underpinning the integration of the ES approach in Norway is concerning the methods. These opposition is carried by a diverse set of actors.

Norges bondelag (2013) argues that the commission of NOU 2013: 10 did a good job at presenting the value of Norwegian ecosystem as well as presenting the different types of methods for their analysis, however, they argue that the implementation of these methods is practically impossible in practice, due to case-specific constraints and high cost. They argue as well that eventual increase of environmental standards leading from this project could reduce food production in Norway, leading both Norway to be more dependent (from international) and more polluting (due to transportation) in case of such an implementation (Norges Bondelag, 2013). They argue that when the environmental goals are at odds with food production, food production should be prioritized. They also point out that the report did not look at the Oil and Gaz branch which through their export and from it leading consumption, ecosystems are also damaged through greenhouse gas emissions (Norges Bondelag, 2013), as discussed in thematic n°2 seen in the previous section.

While ES can be described through quantitative or qualitative terms, the NOU 2013:10 puts a lot of emphasis on qualitative oriented methods compared to what has been done internationally with the TEEB project (Informant 5; Statsministerenskontor, 2019; TEEB, 2010). This has

several implications, primarily concerning the debate on monetary valuation and their representation of values from nature.

4.3.3.1.2 Misrepresentation of the value of nature and related uncertainties

A contending storyline to the integration of the ES approach concerns the view on value itself. Indeed, informant 4 explains that :

“the Minister of finance wants more cost-benefit analysis to prove that policies we propose are economically sound. But they are not asking for monetary value, perhaps afraid values would become very high or maybe they don't trust the methods” (Informant 4).

However, some argue that due to its intrinsic value, the value creation from nature is incommensurable to financial values (MDG, 2019). As seen in thematic one, this point is not often discussed on a national level and it is more often the lack of scientific info is also often put to light. Indeed, Landbruks- og matdepartementet (2013) argue that the real situation of both forests and especially soil is misrepresented and argue that is risky putting monetary values in such conditions. Similarly, Norges Skogeierforbunds (2013) reflects that the assessments proposed by the NOU 2013: 10 are not possible due to lack of available data. And in the same setting Statistisk sentralbyrå (2013) [statistics Norway] argues that even though the report was really productive, a lot of information about the current conditions of the ecosystems is still lacking for effective implementation of such ecosystem service valuation methods.

4.3.3.1.3 Oversimplification

Another related antagonist storyline (to the implementation of the ES approach) also concerns value and what is meant with it. Concerning the NOU 2013: 10 on ESV, some argue that in the methods, numerous details are left out (informant 6) and they argue that the oversimplification to give a wider reach can come at odds with the purpose of the approach itself.

NOU 2013: 10 promotes informing about the value of ecosystem services through calculation based on biology, there the biology factors are not always existing (Havforskningsinstituttet, 2014). They set out to agree with the fact to need to place value on ecosystem services, like seeing food from the sea as an ecosystem service but report difficulties in the fact that the resources are situated in different countries rendering economic valuation and the related compensation schemes very complex (Havforskningsinstituttet, 2014). This adds evidence to

the debate on the ES approach being too narrow -because too local-, and to the disciplinary disputes set out in the next subsection.

4.3.3.1.4 Redundancy of the ES approach

Another opposing storyline to the dominant discourse in favour of the ES approach in Norway is claiming that this approach has long been integrated, in an indirect way, in policy.

Indeed, the oil and energy department “Olje- og energidepartementet” (2013) argues that the valuation of ecosystem services and the decision thereupon in the setting of cost-benefit analysis is already integrated into decision making on a national level. They say that for example in a licensing process in the oil and gas industry, the potential environmental consequences have to be reported before that the decision of the licensing round is made on the bases of these trade-offs. The ecosystem services that are arguably considered relate to recreation, fishing and tourism industry (Olje- og energidepartementet, 2013). Norsk Olje og Gass (2013) expresses similar concerns as well as Statkraft Energi As (2013) who also produces renewable energy. They mentioned indeed that these cost-benefit analyses take place while of attributing concession and that moreover, there are already multiple laws and principles they follow: citing a few ([cited and translated from Norwegian] Statkraft Energi As, 2013, p. 1):

- “Biodiversity law which lays the ground for the whole process
- environmental impact assessment
- Watercourse Regulation Act [vassdragsreguleringsloven]
- Water Resources Act
- Water Framework Directive [vanndirektivet]conditions revisions” (Statkraft Energi As, 2013, p. 1).

As such, energy companies thus share similar storylines about the ES approach and the fact that a stable climate is a considerable ES is somewhat surprisingly not mentioned from any type of energy company involved in this debate. However, the Norwegian hunter and fisher organisation (Norges Jeger og Fiskerforbund -NJFF -, 2013) insist on the fact that biodiversity conservation with the ES approach presented in NOU 2013:10 is not conflicting with climate change mitigation referring to renewable energy.

4.3.3.1.5 Monetary valuation: a danger for democracy

Part of the dominant discourse in Norway is the fierce opposition to monetary evaluation. The ES approach in the form of monetary valuation faces -amongst other oppositions- the contention that it is at odds with principles of democracy.

The discourse of proponent of monetary valuation argue that only by setting a monetary value on services from nature, only then nature can be valued and managed (and in some cases protected accordingly) (Informant 3). This position is widely debated and is by far not the dominant discourse in Norway. In this setting, Norges Fiskarlag (2014) recommends that they should not -almost- exclusively have focused on valuation mechanisms including monetary markets of value but that NOU 2013: 10 should have found a way to weight non-monetary values of nature against monetary. They also point out the danger of mining waste dumping in the fjords. In this setting, they regret that the report just reports findings but has too weak policy recommendations on the standards (like minimum acceptable standards) regarding the level of harm on the environment possible in real time and the limited integration of the *føre var-principles*- precautionary principle – (Norges Fiskarlag, 2014). DNT (2014) also sets out the undemocratic functioning of these methods. Indeed, as they are complex in their use, they are costly to implement and do not allow for democratic participation (DNT, 2014).

Regarding Nyborg's (2014) work on cost-impact analysis, some of the related concepts have been structured in the NOU 2012: 16 on socioeconomic analysis requested by the finance department (Statsministerens kontor, 2012). This reflects, as mentioned before, that Norway opted for approaches related more to non-monetary valuation. This in a way makes them less visible in decision making although it is argued by some as being a more ethical way to value nature (Informant 1).

Another concern about monetary valuation is whether monetary values would become very high craving a very high compensation (Informant 5). The Minister of finance wants the more cost-benefit analysis to prove that policies we propose are economically sound, but are not asking for monetary value, perhaps afraid values would become very high (Informant 5).

Similarly, some argue that the risk of making valuation studies is that these are quite normative and putting out an expert commission which produces a valuation based on their own ideology underpinning the method, creating results that could harm a debate on a particular decision (Informant 5). Not putting monetary values leaves the debate more open while it also

undermines its practical use (informant 3), for example in a cost-benefit analysis. In Norway, this strong reluctance around monetary valuation caused the discourse supporting the integration of the ES approach in Norway to be oriented towards a more qualitative way to view nature.

4.3.3.1.6 Institutionalisation of the ES approach described by NOU 2013:10

While the report NOU 2013:10 on ESV didn't have in itself an obligatory nature, the discourse structuration about this report influences a lot how the ES approach was institutionalised in Norway.

Indeed, as argued by informant 3 and 5, NOU 2013:10 shows that the international project TEEB of the United Nations has been taken up in Norwegian environmental policy. While contextual elements (such as the change of government in 2013 – a time of publishing) play a role in the fact that this approach is integrated in a limited way in Norwegian environmental policy, it remains unclear if such an approach would help in actually defending nature. Ethical problems with the approach remain unsolved and the biological basis for the calculations is deficient. Indeed, Aslaksen et al. (2015) argue that (NOU, 2013:10) did respond to the limitation of MEA (2005) and TEEB (2010) which according to Aslaksen et al. (2015) “does not classify supporting ecosystem services as a service category, but as basis for the other types of ecosystem services” (p.109) but in NOU,2013: 10 they are “described as basic life-supporting processes” (Aslaksen et al., 2015, p.109). In this setting informant 6 argues that

The “Concept [of ES] is well integrated since 2018 because of its Integration in the guidelines of for doing socioeconomic analysis [guidance in the cost-benefit analysis] which applies when a project involving public money or large capital investment” (informant 6).

Respondents who were proponents of socio-economic valuation integrating ES approach seem to think that lacking data from the ecology discipline can easily be bridged by certain valuation methods (informant 1 and 3) where document analysis of the positions from the ecology disciplines see more problems into such an approach, because of the uncertainty that comes with science, final results can only hardly be given.

While some argue that valuation of ES is relatively mature from an economic perspective, others point out several problems related to the methods used, ranging from the fact that it

oversimplifies complex realities, that underpinning information from ecology is lacking in some valuation project, and the fact that it curtails more complicated local debates leading democracy to be undermined. Debates on whether more qualitative approach would be better in regards to the ethical problem some see with monetary valuation is still ongoing. However, some argue that monetary valuation might be the most impactful way to use the ES approach for maximizing social benefit in Norway. Some would go as far as saying the debate about the future of the ES approach in Norway is unnecessary as it is already integrated through its international context, in particular, the adoption of EU directives. Perspectives and findings on the latter point will be explored in the next subsection.

4.3.4 ES approach development in Norway within its EU context

Norwegian policy is closely tied to EU policy making and even international influences (Archer, 2005). How this international context influences the discourse formulation, structuration and institutionalisation about the integration of the ES approach in Norwegian policy is set out here below.

4.3.4.1 Norway's EU context.

It is relevant to briefly point out the context Norway finds itself in relation to the EU and it directly affects Norwegian politics. Indeed, Archer (2005) explains that from 1994, “Norwegian commercial agreements with the European Union are based on the European Economic Area agreement” (p.65) and the integration goes even further letting Norway transpose many EU directives in its own law, still without being part in it as the Norwegian population refused.

The EU has been prone to the implementation of the concept of Ecosystem Services and its related valuation both between its border as internationally, for example when it tested the framework developed by Rode et al. (2016) [described in one of the previous sections] within the project in Thailand “EU funded project ‘Enhancing the Economics of Biodiversity and Ecosystem Services in Thailand’ (ECO-BEST)” (p.36). Norway has to integrate a share EU directives do to its EEA agreement like the “Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy” (EU Water Framework Directive – 2000).

SWECO, NIVA and Klima- og forurensningsdirektoratet produced a report to see how this could be incorporated into Norwegian policy. This directive that claims, that for better management in water, all water should be priced and LVK (2013) thinks it should only reflect the pollution to it. In this setting LVK (2013) argues that payment for ecosystem services could be deemed unreasonable.

4.3.4.2 Developments after NOU 2013: 10

In this subsection, the follow up and impact of NOU 2013:10 will be discussed for understanding future perspectives for this approach in Norway. Indeed, as NOU 2013:10 on ecosystem services was just a report asked from the government it potentially only have an impact for research and can be a document other policy base themselves on (Informant 1).

NOU 2013: 10 reports can be followed up by Stortingsmelding which ask to discuss a certain matter in parliament, this “messages to parliament” can also be a follow up from this NOUs in the perspective to draw bills from it (Regjeringa, n.d.). While there were relatively little White Papers (Regjeringa, n.d.) following this rapport, this could partially be due to the fact that there was a governmental change in 2013, and one interpretation could be that because this is because a government feels more the need to build on the reports they ordered themselves (informant 1). In the register about “stortingsmeldinger” concerning Ecosystem Services, most date to before 2013 (Regjeringa, n.d.).

From the ones after 2013, there is notably:

- A stortingsmelding on the national budget in 2015 which refers to the importance of ecosystem services in relation to welfare depending on medical offers and food production (Regjering, 2015).
- A Stortingsmelding in the “Nasjonal transport plan 2018–2029” under the objective «Limiting the loss of natural diversity» the ecosystem services of pollination (Regjering, 2016a).
- Stortingmelding «Nature for life - Norwegian action plan for biodiversity» Regjeringen (2016b) refers back 88 times to Ecosystem Services and using lots of the same concept as in NOU2013: 10, insisting on the fact that the cost of the loss of these will be important and insisting on the benefits we get from them
- The Stortingsmelding «Updating the management plan for the Norwegian Sea» refers back to the concept of Ecosystem services 20 time and the discursive elements are similar than those presented in NOU 2013: 10, especially insisting on the fact that it is an approach to optimize welfare (Statsministerenskontor, 2017)

NOU 2013: 10 referred to the guidelines for environmental impact valuation (“utredningsinstruks” in Norwegian) as a way of deepening the implementation of the concept in Norwegian environmental politics (Statsministerens Kontor- NOU 2013:10, p.16,26 and 233). The stortingsmelding of 2014 on “Nordic cooperation” Referring to the concept of ecosystem services as the possibility of a synergetic multidisciplinary approach (Statsministerens Kontor, 2014).

While on the legal level, NOU 2013:10 has no power, it has important policy implication (Informant 4) and Informant 4 argues that it complements environmental policy, especially through Stortingmelding «Nature for life - Norwegian action plan for biodiversity»

(Regjeringen, 2016b). One reason for the biodiversity act of 2009 to not be amended accordingly is because it was possibly thought that it was already strong enough or integrating enough the ecosystem approach (Informant 3).

Informant 3 argues that the NOU 2013: 10 on ecosystem services became

“relevant on policy level through the white paper of 2015 “natur for livet” and that through this the ES approach comes to supplement environmental policy. The ES approach is however nowhere into Norwegian law as the thinking in the government was that biodiversity act in 2009 was strong enough so didn’t want to change, the same goes for the tourism act and act on marine living resource. This does say something about the direction in which they want to change” (Informant 3).

Thus, as informant 1 supported, while the NOU is not obligatory and did not attempt to undermine the biodiversity act of (“Naturmangsfoldloven”) in 2009, it attempted to complement it on a theoretical basis, indeed, the fact that there was an NOU on the topic makes the term gain legitimacy. Moreover, due to the matter that in 2018, the guidelines Environmental impact assessment integrated the ecosystem service reinforces the report “NOU 2013: 10 on ecosystem services” and it an important milestone into the integration of the of the methods and the concept of the Ecosystem Service approach into the Norwegian environmental strategy (Informant 5, Statsministerenskontor, 2018; Direktoratet for økonomistyring, 2018). International influences on the integration of this concept have been present and there is political will to collaborate on concrete implementation on a Nordic level (Informant 3). These latter will direct the future development of the ES approach in Norwegian environmental policy, along with discourses on a national level.

5 Discussion

In this section, the theoretical contribution made in the previous section will be discussed and reflected upon taking the four thematics found above as a starting point for the reflection.

5.1 Is ES the best strategy to maximizing social benefit in Norway?

One of the discourses found was questioning the ES approach for whether it was the best way to maximize social benefit in Norway. Indeed, this is a contested topic and several alternative approaches and views exist to conserve and value nature. Some opponents are amongst MDG and – as found - it is the commodification that poses problems as it leaves out the intrinsic value of nature and only takes its “market” value. As natural resources are an important part of the “provisioning” ecosystem services (MEA, 2005), Norway's context with regards to the quality of its ecosystem service is particularly interesting. This is highly relevant as the Norwegian dependence on their resources and environmental resources might have an influence on the political debate. This will be discussed later in this section along with the international backdrop in which the ES approach developed.

5.1.1 Norway's natural resources

Norway is at the high end of international rankings concerning economic prosperity and Torvik (2009) argues that this is at least partly due to “exploitation of natural resources” (p.250). Norway has diverse natural resources such as “fish, timber, minerals, [...] hydro-electrical power,” (Torvik, 2009, p.250), however, it is mainly dependent on its fossil fuels (Figure 1).

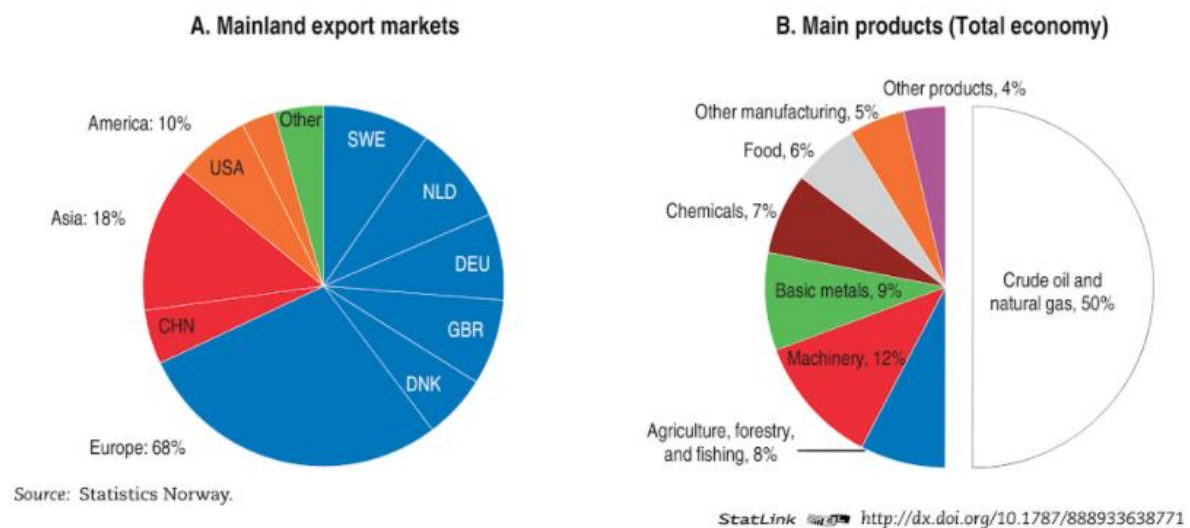


Figure 4 “Norway's Export-market profile” (OECD, 2018, p.37)

This study found that in Norway, one of the current ways of thinking in environmental strategy has become thinking about nature conservation in the perspective of preserving wealth (Informant 1), in this setting the fact that Norway as such a richness of environmental resources could have influenced the adoption of ES approach to preserve this wealth but an alternative explanation could have been that the lobbies of national and international companies who have an interest in the exploitation of this natural resources influence the debate. This has been the reflection of Kronenberg & Hubacek (2013) who argued that in particular regarding Payment for ecosystem services could lead to an " Ecosystem Service Curse" similar to the resources curse, as ecosystem services are a resource. However, this is unlikely to apply to Norway as Torvik (2009) highlighted, Norway mostly avoided the resource curse due to the effective management of natural resources.

5.1.2 National level and the policy process

The Norwegian parliament has a “Standing Committee on Energy and the Environment” which are responsible for amongst other environmental resource concerns (Stortinget, n.d.) and the dynamics with other agencies and institutions in Norway as set out in figure 2 (Haugen, 2016, p.4).

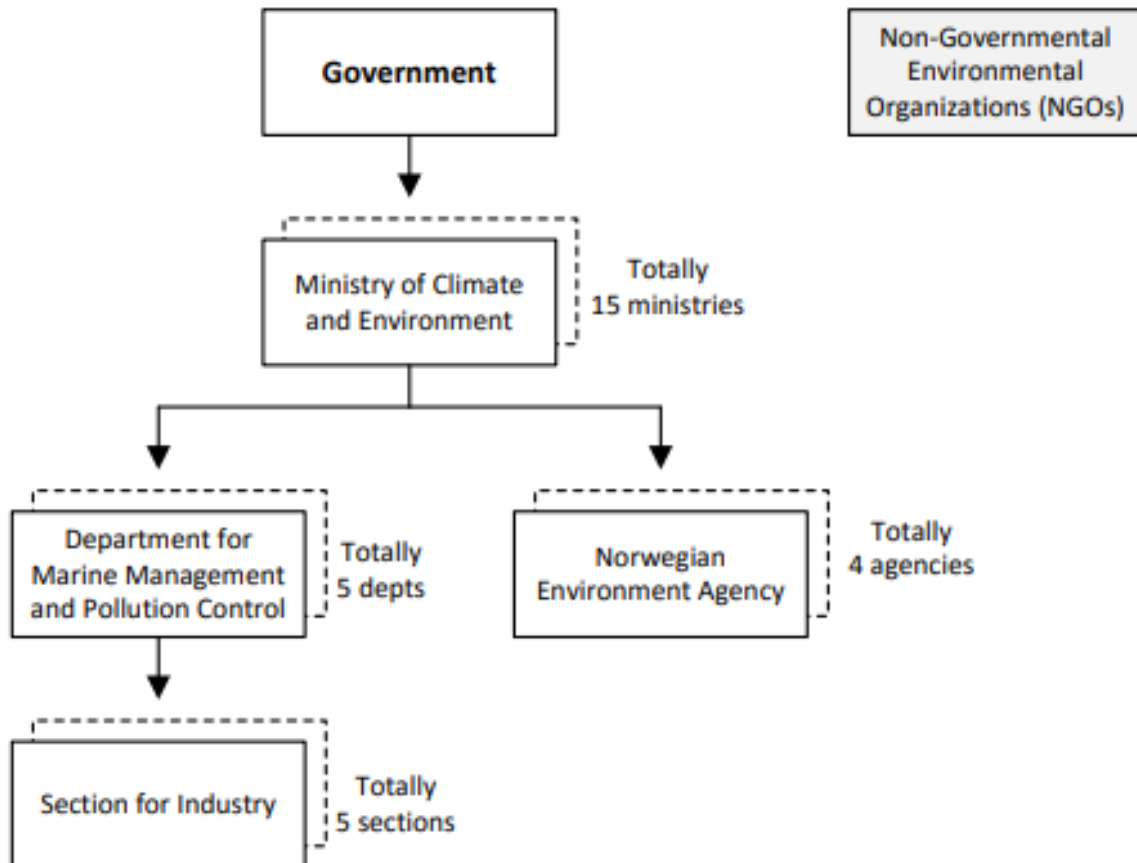


Figure 5 “The overall organization of the environmental management system in Norway” (Haugen, 2016, p.4)

McCorminck (2018) argues that NGOs have been more influential in the process of making environmental policy than political parties. Some of the most influential - in terms of the quantity of member – in the recent years are the “Norwegian Society for Nature Conservation”, “Nature and Youth” which is affiliated to the latter, “The Future in Our Hands ” and “WWF Norway” (SusNordic, 2008; Reed & Rothenberg, 1992). Nevertheless in the case of the ES approach, it seems that academics have been at least as influential at shaping the ES approach in environmental policy as NGOs (Informant 5; Nyborg, 2014; Barton et al., 2015), as NGO’s/political parties although this has been supported by the NGOs cited here above.

Consultancy firms are also players in the industry and their activities are mainly a consequence of the demands of both the industry, NGOs and political parties. MENON, one of these consultancy firms, is active in the area of resource economics and environmental economics and has a research centre called “Menon Centre for Environmental and Resource Economics (MERE). This centre focuses on ecosystem service (MENON, 2019). In the same fashion, the focus of N.I.N.A. on the ES approach is also really telling, N.I.N.A. defines itself as “an independent foundation that researches nature and the interaction of nature and society” (translated from their webpage “Norsk Institutt for Naturforskning”: N.I.N.A., 2019).

Krøvel (2012) studies the “ability to set the agenda for public debate on environmental issues in Norway” (p.259) of NGOs reported through journalists. He argues that the groups are more influential in public debates where instead of using sensationalism accurate knowledge about the issues are presented (2012). In this setting the fact that NOU 2013:10 is academic based makes this report more powerful, not so much in a legal setting, but rather in facilitating its use. This is done via spillover effects which are enforced through the integration in the guidelines for doing a socio-economic analysis of 2018 (Statsministerenskontor, 2018; Direktoratet for økonomistyring, 2018).

5.1.3 Development of the ES approach in Norway within its EU context

Bouwma et al. (2018) discuss the “Adoption of the ecosystem services concept in EU policies” (p.213) and argue that since 2003, the concept gained momentum. However, while they found that “no specific EU policy devoted to governing ecosystem services” (p.213) they argue that the concept is indirectly integrated into environmental policy but that these are incoherent with other policies. According to Haines-Young & Potschin (2011), the European Union developed a common way of apprehending ecosystem services in 2009 called the “Common International Classification of Ecosystem (CICES)”.

Similarly to Bouwma et al. (2018) research in Norway is in a similar situation as the EU where the “ecosystem services concept is already embedded in recent EU (environmentally-related) policies” (Bouwma et al.; 2018, p.213), this is logic to a certain extent as Norway follows many EU directives (Ibid), however the way Norway integrated the ES approach contrast to the implementation of some neighbouring countries as Sweden (Beery et al., 2016) which are less reluctant to monetary valuation (Informant 6).

On the other hand, the development in Norway of the ES approach builds on the same underlying principles as ecological modernisation, which according to Hajer (1995) is the emerging paradigm in environmental policy, this would be a move away from the sustainable development paradigm which, as Langhelle (2010) argues, has a broader reach and more integrative approach -with other challenges- although being very anthropocentric in itself.

5.1.4 Influences of the EU Ecosystem Service approach on Norway

Eide (2015) discusses the relationship Norway has with Europe. While Norway rejected twice the belonging to the EU, it still has close ties with the EU. After the second popular vote rejecting entry to the EU, Norway stayed with a membership with only the EEA as it allows easier access to the EU market (amongst a few other benefits such as access for the Norwegian population to the Schengen area). However Norway has to pay for this EEA membership and has also the obligation to “incorporated approximately three-quarters of all EU legislative acts into Norwegian legislation” (Eide, 2015), this leads to the irony that Norway is “more closely integrated into many aspects of the EU than even some of the EU’s members” (Eide, 2015).

This framework reported by Eide (2015) is highly relevant in the context of the study has direct policy consequences for Norway. Similarly to the finding of Rosendal (2012), this study finds

that Norway's environmental policy has been strongly influenced by the International system and establishments, this is the case also for the ES approach, which comes from the Millenium ecosystem assessment (MEA, 2005) and later the TEEB project (TEEB, 2010). In this setting, being part of the EEA agreement could be seen as being already part of the discourse of accepting anthropocentric environmental strategies (Reed & Rothenberg, 1992), such as the ES approach.

5.2 Qualitative valuation approach: reduction to a communication tool?

The dominant discourse which underpinned the integration of the ES approach in Norwegian policy was based on the willingness to integrate this approach in a qualitative way, in opposition to monetary valuation.

5.2.1 Monetary valuation: the extremist form of commoditisation of nature?

Aslaksen et al. (2015) argue that the ecosystem service approach is an important approach to emphasise on the value of nature, through the services provided by its ecosystems. While this approach has several limitations, they investigate how this “policy tool can be enhanced by taking into account an ecological framework for biodiversity measurement” (Aslaksen et al., 2015, p.108). Indeed, as there is not only one approach to measure the value of ecosystem services. Morelli et al. (2016) argue that the most predominant objectives for preserving nature in current debates are that it is either anthropocentric for human welfare or for the intrinsic value of nature. ES, as it is currently defined, implies conservation for anthropocentric reasons, indeed it is the valuation of “services provided by the natural environment that benefit people” (Defra, 2007). This can be “broad” anthropocentrism or “narrow” anthropocentrism (Morelli, 2016).

The finding reflects that Norway has a particular situation that is really telling in this debate. It seems to have a “broad anthropocentrism”(as in Morelli’s terms) which is ethics driven -such as the fact that it does not perform monetary evaluation- , but this application in Norwegian environmental policy results in a “narrow” incorporation in policy, as being not monetary valued they often only results in only a statement about their value, rather than taking it equitably into part of the decision.

Following up to this, Boyd argues that economics is a language to convey meaning and contrasts it with conservation which is a “fundamental ethics -driven social issue” (2011, p.180). Chaudhary et al. (2015) report that the term “service” in the ES approach refers to an anthropogenic worldview. There are, however, different perspectives on conservation and on what should be conserved (Herfindahl, 1965). This is a result of different worldviews, priorities and assumptions (Hynes et al., 2018; McCormick, 2018). Amongst the different perspective on nature conservation, there is also the perspective that it has ‘intrinsic value’ and is thus sacred in a way (McCormick, 2018), however, these are not in any way reflected in Norwegian valuation of ecosystem services.

Boyd also expresses the concern that cultural perspectives and individual ontological assumptions pose a challenge to what is valued in ecosystem services (2011, p.180; Hynes, 2018). There are clear biases indeed; for example, the article by Morse-Jones et al. (2012) reports that humans will have a clear preference for charismatic animals. This reveals the lack of understanding regarding the importance of conservation of endemic species (Morse-Jones et al., 2012, p.15-16). This also reveals a clear limitation of “mainstream economics” where individuals are considered fully rational and informed, while they are in fact limited by their ‘bounded rationality’ (Burns & Roszkowska, 2016), thus their valuation – of ecosystems - cannot always be accurate (Boyd, 2011, 180). Boyd (2011) also reveals that some of the market methods are problematic, indeed, “supply and demand conditions determine prices, rather than the aggregate importance of a good” (p.180). Ecosystem service approach can be interpreted in different ways, it can be non-monetary just to make visible the importance of Nature (Informant 3), but only in an anthropocentric way, and as seen, the results on nature conservation management issues in Norway are limited.

5.2.2 Oversimplification

Morelli et al. (2016) argue that people adopt anthropocentric vision -which underpins the Ecosystem service approach - because it is more approachable because oversimplified. This argues that this undermines the complexity of the question as they state that

“obtaining easy answers to complex questions is often an indication that something was lost” (Morelli et al., 2016, p.102).

While human preferences are heterogeneous, this is not a direct limit to the ecosystem service approach as the ES approach aims to capture societies view on an issue in a global way (Reed & Rothenberg, 1992; Jacobs et al. ,2016). However, the results reveal that intergenerational matters are poorly addressed in the valuation studies carried out in Norway, indeed they are reflecting a ‘Narrow anthropocentric approach’ (as in Morelli's concept, 2016), by being limited to reflecting current preferences. While some are sceptic against the ecosystem approach for reasons as diverse as moral reasons -relating to the not capturing of intrinsic value of nature-, but also for practical reasons -such as the fact that it is often very hard to have enough ecological data about the place -(Reed & Rothenberg, 1992; MDG, 2019; Jacobs et al. ,2016); some argue however it is the change in quality and quantity that can often be assessed, and the figure below points out this (Magnussen & Dumbo, 2019).

Figure 3: Way of assessing the value of ecosystem services (ES), with examples from forests

Source: TEEB. (2010).

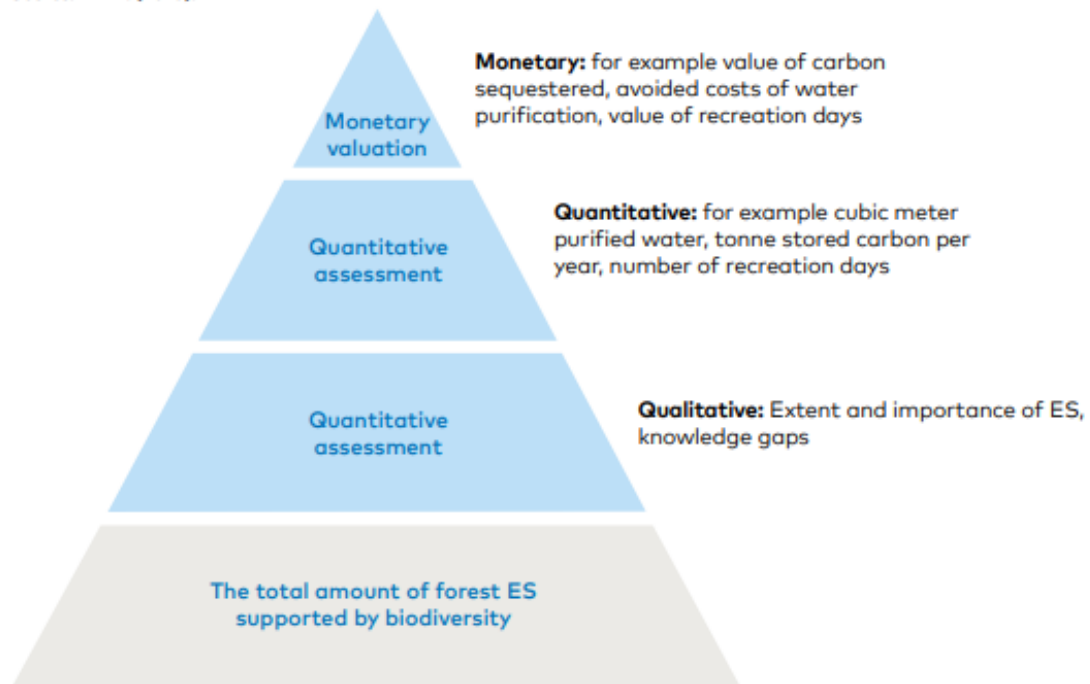


Figure 6 “Ways of assessing the value of ecosystem services” (Kristin & Dombu, 2019, p.18)

Similarly, some proponent of the ecosystem service approach argue that it is not narrow direct utilitarian values that aim to be captured, but a broader range, ranging from use values to non-use values such as the duty one feels to preserve to future generation; indeed, in the ecosystem service approach, the value of the ecosystem is conceptualised in the following way (Kristin & Dombu, 2019, p.18).

Box 1. The Total Economic Value (TEV) of ecosystem services consists of use values and non-use values

1) Use values

- a) Consumptive use (fishing, recreational fishing, hunting)
- b) Non-consumptive use (catch-and-release-fishing, visiting cultural landscapes)
- c) Indirect use values (water purification, climate regulation, climate adaptation)
- d) Option values (the value of keeping the possibilities for future use)

2) Non-use values

The value of ecosystem services without aims of using the service but preserving it for ourselves and others today (Existence value) or for future generations (Preservation value).

Quasi-option value

Correction factor for irreversible changes in ecosystem services (loss of species, irreversible changes in landscapes).

Figure 7 “Total economic value of Ecosystem Services” (Magnussen & Dombu, 2019, p.19)

In the frame hereabove of Magnussen & Dombu (2019), this duty to conserve nature for future generations again reflects current preferences, and the preferences are heterogeneous. The finding here joins to Morelli's argument (2016) and can be concerning for the same reasons; indeed Morelli et al. (2016) argue that ES is anthropocentric and is not new in any way and this promotion of “ecosystem services framework” using an “assessment system” (p.101, 102) and argues that this system can in many ways be used to destroy nature and is prone to become disused along with technological advances.

5.2.3 Democracy

The lack of integration of future generations preferences is linked to the narrative about the approach being undemocratic, as insinuated by some organisations (DNT, 2014). However, it not necessarily needs to be the case according to (Kangas et al., 2006). The latter examined “Social choice theory and its applications in sustainable forest management” (ibid). This conceptual framework aims at reaching collective decisions combining techniques that maximize what people want and therefore one should already know what people want and people should know what they want (Kangas et al., 2006), this concern is also expressed by Aslaksen et al. (2014).

Indeed while the latter (Ibid) argue that ESV is a crucial tool for making the population and decision makers aware of human dependence on nature an deep-ecology perspective would argue in this setting that an anthropocentric view vehicles through ESV could never capture the totality of value that Nature has because it is in this setting confined to only the use it has to humans (Reed & Rothenberg, 1992). Thus, the fact that this research found that the debate about how nature valued in unresolved in Norway doesn't seem to be the effect of Norway's cultural background as the debate is unresolved in other countries as well.

Schröter et al. (2014) argue that even while there is no consensus on methods for the valuation of ES, these methods can still help in a practical implementation in public policy. However, Chaudhary et al. (2015) report that different authors such as Fairhead, Leach & Scoones (2012) in "Green Grabbing: a new appropriation of nature?" expose the debate and the risk of this "*commodification*" of nature. Indeed, the idea of natural "capital" – as in the term "natural capital" which forms often part of the ES vocabulary – express the idea of possession and thus the possibility of trading (Boyd, 2011, p.238). However, Boyd argues that evaluating ecosystem service in monetary terms can ensure that the value of nature becomes more visual (2011, p.179). Thus, in the pragmatic term, incorporating the ES approach in decision making may be more productive - in the world as it currently is - than arguments about the intrinsic value of nature (Boyd, 2011), however the current implementation in Norwegian environmental policy does not support this argument, while it does not reject it either.

5.3 ES: The disintegration of environmental policy?

5.3.1 Sustainable development and the broader national strategy

Sustainable development is broader than the ecosystem service approach (Informant 3). However, the ES approach is in many ways integrated into many sustainable development initiatives, such as in valuation for the payment for ecosystem services, which allows for both money entrance for developing countries and securing ecosystem services such as carbon capture by carbon sinks such as forest (UNDP, 2019).

Often ES is valued for its narrower value as being a loss of more local biodiversity leading to local problems (Barton et al., 2015). This research contributes in showing this is also the case in Norway, where the link with the broader climate change issue is missing, as revealed by the results. Some argue that it is often forgotten that the sum of local effect leads to a global effect and the contribution of the local potential loss of biodiversity is not taken into account in many valuations, but it can be depending on the valuation methods used and the underpinning idea of what is important (Mooney, 2009), and in Norway the underpinning discourse for promoting the ES approach is surprisingly not linked to the broader climate change agenda or development agenda.

This is controversial as the discourse reported on the ES approach (Magnussen& Dumbo, 2019) would have a lot to gain being linked to the sustainable development goals (SDG, 2015). Indeed The ES approach aims at making visible the dependence of most aspects of human welfare from nature (Aslaksen, 2015) and thus the concerned SDGs would be “[6] clean water and sanitation”, “[11] sustainable cities and communities”, “[12] Responsible consumption and production”, “[13] Climate action”, “[14] Life below water” “[15] Life on land” (SDG, 2015).

5.3.2 Disciplinary struggles and conceptual developments

It was found that in Norway both *use* and *non-use* values are integrated in the ES approach as revealed in the report NOU 2013: 10. This testifies of the matureness of the development of the ES approach in Norway. Indeed, in the early development around the concept, only ‘*use-values*’ were considered and later ‘*non-use values*’ were also considered (Chaudhary et al., 2015, p.28). They explain that:

“this was followed by an increasing interest in policy, planning, tax and governance before more critical commentary emerged from areas such as political ecology, human geography, food security and poverty reduction” (Chaudhary et al., 2015, p.28)

The dominant discourse in Norway is the valuation in of ES for qualitative terms in a non-integrated way with other objectives such as “poverty reduction” or other reported above by Chaudhary et al. (2015). However, the research around the ES approach became large enough in 2012 to have a journal of its own: the “Journal on Ecosystem services” (Chaudhary et al., 2015, p.28), this is around the time that the ES approach started to be integrated, first indirectly, in Norway with the NOU 2013: 10 report. Chaudhary et al. (2015) argue that even though this concept is evolving, the economics and ecology disciplines still largely determine the content of the concept (Ibid). This is also the case for Norway, although this reveals that nature management is still predominantly in the field of ecology, as seen with the Biodiversity act (2009), through the integration of the concept in the socio-economic analysis the economic discipline has taken more important ground. The knowledge gap from the Ecology side on the state of biodiversity in Norway, combined with methodological disputes from the economic side, makes the future this approach still uncertain in Norway.

6 Conclusion

As seen, the ES approach is relatively recent in Norway and is increasingly used as one of the strategies underpinning environmental policy. The dominant discourse advocates that this ES approach goes further than only considering the narrow utilitarian view – where more cost-effective conservation is enabled – while another discourse conveys that this anthropocentric approach is a hurdle to effective conservation. In this setting, the major focus of the debate seems to have been around the scope of the valuation, where it is disputed if monetary value should be attributed to ES or if the worth of ES should just be indicated qualitatively, to inform about human dependence on ES. Moreover, methodological challenges related to the manifold of perceptions of human wellbeing are unresolved (Wegner & Pascual, 2011), but currently the core debate revolved more on the ethics behind the question of monetary valuating or not. The dominant discourse in Norway imposed non-monetary valuation and this is to a large extent undisputed.

Indeed, the recent development of the ES approach in Norway contrasts with some of the environmental philosophies developed in Norway such as deep ecology. However, the ES approach is incorporated in a sustainable development demarche – which also takes its roots in Norway –. For example, if a broader perspective is taken on the ES approach, such as for example the “good health and wellbeing” sustainable development goal (SDG, 2015). However, from UNDP (2019) and the findings, it was gathered that the dominant perspective in Norway about the ES approach is that it is a useful tool in achieving other sustainable development goals. Thus, while being a contested concept, the fact the incorporation of the ES approach in Norwegian environmental policy allows for a certain extent of taking into consideration nature has been applauded by some. Others see a risk of commodification of nature in the way the ES approach is taken on in Norway (Fairhead et al., 2012; Boyd, 2011; Morelli, 2016). Some opponents would go as far as to characterise it as a tool to that can be used to justify the destruction of nature. While cases are different, it is commonly argued by opponents that the background and methods used of the team carrying out the valuation matters in what is valued, and thus the ES approach cannot be always relied upon. This implies that the free services from nature are considered for no concrete value in decision making, limiting the possibilities of nature conservation relying on the ES approach.

One of the most salient findings was that the ES approach is integrated based on the dominant discourse carried by – amongst other Miljødirektoratet and the ministry of finance – which

argue for a qualitative valuation of ES. Indeed, a quantitative approach is rejected by this discourse for it being not ethical as regards to the risk of commodifying nature. It is also criticised for being methodologically complicated or even making some projects not happen for the reason itself of the value of nature being too high. However, with the debates listed above still ongoing, it seems that the ES approach has margin for discourse structuration and institutionalisation (as in Hajer's discourse analysis terms) if it seeks to play its role as a simple yet approachable tool to guide decision making in the Norwegian environmental strategy.

6.1 Limitations

This subsection provides the reflection on a certain number of limitations this research has been confronted to.

One of these constraints was that the study was limited to the documents in Norwegian Bokmål and English and does not analyse documents in Nynorsk or Sami; this could exclude some documents and hence some perspectives (Drid, 2010). The study is also limited to the accessibility of the documents, indeed Lynggaard argues that some documents might be less accessible to the public than others, such as a private meeting minute (Lynggaard, 2012). The documents and interviews are not selected to represent a population; hence the findings cannot be generalised statistically to a population (Blakie, 2010). Then as well, this study does not focus on "the truth about the ES approach" but rather on "what is said" about it and how it has shaped Norwegian environmental policy, this is in accordance with the theoretical framework of discourse analysis (Hajer, 1995). Thus, this study does not address the evaluation of the concept of ES services.

Similarly, the use of Google trends limited to a search dating from 2004 and not to earlier dates. Also, amongst all persons considered for an interview, only some responded being willing to be interviewed. Selection bias of the interviewees due to use of the snowball method could have occurred limiting the scope of interviewees to within the network similarly as described by Baltar & Brunet (2012). As such limitations have occurred concerning the reach of the sample. For Norwegian privacy policy reasons, the interviews had to be anonymous according to the guidelines from NSD. This makes it impossible to give the name and background of the interviewees which would have made it interesting to recontextualise as suggested by Hajers

approach (1995). Hence the focus has been on the analysis of the transcriptions of the interviews and the professional context in which the interviewees where has not been regarded.

6.2 Policy implications

As the document analysis revealed, sensationalism is not a particularly powerful way to make environmental policy, knowledge-based projects seem to have done so (Krøvel, 2012), this research implies this is the case for the implementation of the ES approach in Norway as well. Several informants have mentioned that through the NOU 2013: 10 about the ES approach, the concept gained legitimacy and let it be possible for implementation in private and public spheres, it also led it to be taken up in white paper like “Nature for Livet” in 2015 and the guidelines for doing socio-economic impact assessment, which legitimize the concept to a certain extent in a legal basis but certainly in the national environmental policy and thus in one amongst the multiple strategies debated in Norwegian environmental policy. The interdisciplinary struggles and dependencies, and methodological disputes from both the ecology side and from a socio-economic perspective weaken the legitimacy of the approach in Norway. Moreover, knowledge gaps about the condition and value of an ecosystem service can only partially be bridged by socio-economic analysis and the results are often contested in practice.

As a strategy for the Norwegian environmental policy, the ES approach has been proposed more as a communication tool rather than a way to maximize national welfare, putting the value of nature in the equation of the decision. It was found that non-monetary valuation does in practice not allow for value comparison, on both sides of the argument arguing for or against there are indeed different motivations. With non-monetary valuation, the application and the binding force of valuation studies are limited, but some argue that this non-monetary approach limits the commodification of nature while still reflecting its value to a certain extent. This finding implies that on a national level in Norway, the Ecosystem Services approach is adopted as a communication tool that can be used by public and private organisations to defend particular areas, but this defence won't be underpinned by numbers which means that it can easily overlooked in certain forms of decision making.

Both the European context and the Nordic model context have deeply influenced how this approach has developed and how the concept has been incorporated as a strategy in Norwegian environmental policy. The NOU 2013:10 has been a milestone for the legitimacy of the concept

and the incorporation into the guidelines for doing socio-economic analysis in 2018 (Statsministerenskontor, 2018; Direktoratet for økonomistyring, 2018) which has led to the ES approach being incorporated into national policy, but only as a complement to the biodiversity act of 2009. This implies that there is still room for discourse structuration and institutionalisation (as in Hajers framework terms, 1995) for the ES approach if it is going to play a significant role as a tool for decision making for nature conservation, beyond the one of a communication tool.

6.3 Further research

While the literature review sets out that research has been done on which approaches lead to more effective implementation of environmental policies (Krøvel, 2012), this has not been done on a country/cultural level scale or in relation to the discourses that carry these policies. Krøvel (2012) found that knowledge-based lobbying has proven more effective than sensationalist attention, however, it lacks investigation which narratives and strategies are more effective for environmental policymaking depending on the socio-cultural background of the country. The process of idea formation through language and culture has been examined by ‘critical discourses analysis’ (Wodak 2011) and this theory could help complement discourses analysis for understanding how the socio-cultural norms influence environmental policymaking and could be valuable for understanding the policy process that leads to the incorporation of the ES approach in environmental policy.

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