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ECONOMICS AND STATISTICS
UMEÅ UNIVERSITY

Biodiversity and Business

Multiple Case-Studies on Biodiversity Strategy in Sweden

Amna Goaid, Christian Sjöland

Department of Business Administration
Program

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Supervisor: Zsuzsanna Vincze



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*To the two persons, without whom, I would not be able to make this possible. Thank you for your unfailing support and boundless encouragement. You are forever my shield and source of strength.
I love you.*

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To my mother and girlfriend who are the sturdy cliffs in my stormy ocean. To my close friends. Thank you.

In memory of my father.

Christian Sjöland



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Abstract

Biodiversity loss has been stated as one of the greatest risks for the future society according to the World Economic Forum (2018, p. 5). A million species is risking extinction due to current societies' practices according to a report published during the conduction of this study (Brondizio et al., 2019, p. 3). This situation of biodiversity has led an increasing amount of countries to enforce legislation which requires companies that work with land development to comply with no net loss goal. In Sweden, no such legislation existed with regards to biodiversity. Against this background, a group of seven companies in Sweden voluntarily chose to strive toward the goal of biodiversity net gain. According to BNG strategy, a company does not only avoid, minimise, restore and offset to reach the point where zero net loss of biodiversity is achieved, but goes farther to create a net gain. As it is not sufficient for companies to stop emissions in order to halt the loss of biodiversity, BNG practices can help mend and even reverse the negative impacts until a gain of biodiversity is attained. A greater understanding of the opportunities that companies can benefit from implementing BNG helps spread this practice across industries. No previous research within the business literature explains companies' voluntary initiatives to embrace BNG. Therefore, this explorative study suggested the research question of what the drivers are encouraging companies to voluntarily work towards achieving biodiversity-net-gain in Sweden.

Due to the lack of previous research about companies' drivers to engage with BNG, our theoretical framework was found based on the drivers from business case for sustainability and CSR approaches as a factor to generate change. To be able to answer the research question, it was necessary to establish what BNG is and how it has developed from the concept of ecosystem services.

Having an interpretivistic standpoint, this study was completed according to an inductive and deductive approach. This was in order to facilitate the exploratory nature that our qualitative and comparative study. We conducted a multiple-case study through semi-structured interviews with seven large companies in the context of Sweden. These businesses are considered as the most ambitious in working towards BNG's goal. The findings from the primary data was complemented by secondary data about the companies, the status of current legislation in Sweden and the sustainability status in Sweden.

As a result of this thesis, we found that cost and cost reduction, risk and risk reduction, sales and profit margin, reputation and brand value, attractiveness as employer, innovative capabilities, stakeholders and health and well-being of future society to all be drivers for BNG. By applying our theoretical framework in the Swedish context, the seven companies were identified to engage in a proactive corporate biodiversity behaviour. Business cases for biodiversity were identified in some of the companies.

Key words: Biodiversity Net Gain, Biodiversity Loss, Biodiversity Strategies, Mitigation Hierarchy, No Net Loss, Stakeholders, Implications and Drivers.

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1. Introduction

With this introductory chapter and through the display of pertinent information, we set the stage for readers to acquaint them with the selected topic, its relating problem and background. This study investigates the voluntary drivers that encouraged seven companies in Sweden to voluntarily work to achieve a positive impact on biodiversity in the absence of legislation that forces the act. We illustrate how biodiversity-net-gain strategy has emerged as a promising solution to halt and reverse biodiversity loss, but still in an embryotic phase and in short of clear theoretical and practical exploration of its scope. Thereafter, we identify the parts that have not been adequately elucidated and present the research gaps which we aim to bridge with this study. Finally, having stated our research question and outlined contributions and limitations, we end this introductory chapter with a set of key concepts definitions and a list of abbreviations.

1.1. Problem Background and Discussion

As of the 21st century, one concern that has existed for a while is that ecological degradation is of a negative impact on all living-beings (McEwen, 2013, p. 264). The rate at which economic development is growing leaves no room for wildlife to co-exist in the ark (Volery, 2001, p. 542). “Invasions” of species’ habitats are accelerating at a pace that has never been recorded in human history, and as of today they are likely to sore (Volery, 2001, p. 542). In 2002, the levels of ecosystem degradation noticed through deforestation, soil destruction and industrial pollutants are spotted to strikingly intensify (McEwen, 2013, p. 264). Heretofore, the situation in relation to environment and wildlife diversity has been portrayed as “*sleepwalking into catastrophe*” (World Economic Forum, 2018, p. 15). Not surprisingly that these major ecosystem menaces have seized a bigger slice among the results published by the World Economic Forum in Geneva in its 2018 annual survey (World Economic Forum, 2018, p. 6). Results from the former report equally found that the degradation rate of our natural capital, more specifically biodiversity, was ranked among the topmost three risks in terms of probability and four in terms of impact scale. Herein, multiple environmental schemes and biodiversity conservation strategies were formed to alleviate such ecosystem deterioration and losses. Yet, threats persist and are still on the rise.

Since the environment’s protection cannot be put ‘on hold’ until more superior strategies are reached to attenuate the existing and future threats, researchers’ attention towards biodiversity loss rose (DeLong, 1996, p. 738). In this, several scholars believed that by exploring a better understanding of biodiversity and its lingering threats, they can facilitate the communication and cooperation between “*governments, agencies, disciplines, organizations and private landowners.*” (DeLong, 1996, p. 738). Academics also argued that providing a clearer definition of biodiversity can help the above-mentioned parties attain more promising strategies on how to halt such environmental issue and reverse its negative impacts (DeLong, 1996, p. 738). Thus, biodiversity was explored and defined as “*the variety of life and its processes. It includes the variety of living organisms, the genetic differences among them, the communities and ecosystems in which they occur, and the ecological and evolutionary processes that keep them functioning.*” (Noss & Cooperrider, 1994, cited in Delong 1996, p. 738). In the same stream of thoughts, the term ‘biodiversity loss’ was eventually recognized and formally described as a “*long term or permanent qualitative or quantitative reduction in components of biodiversity and their potential to provide goods and services, to be measured at global, regional and national levels*” (Eionet, 2019).

Now that biodiversity loss started gaining larger concern, researchers began approaching this matter with regards to its negative impact on humans' well-being and ecosystem services. Cardinale et al. (2012) and Worm et al. (2006) argued that there is a positive interaction between economic productivity and healthy biological diversity. They also continued on this idea and discussed how biodiversity losses have resulted in major repercussions to the “*goods and services ecosystems provide*” (Cardinale et al, 2012, p. 52). Over the past few years, the situation has become direr. World Economic Forum (2018, p. 15) maintained that environmental damages have become brittle, to the extent that they are engendering a risk on the global communal and economic steadiness. An illustrative example here is the case of coastal ecosystems, which are home for more than 200 million habitants around the world. As of today, they are enduring environmental seizures and drastic ecological changes such as rising sea levels, amplified atmosphere temperature (exactly by 1.5°C degrees according to Paris Agreement in 2018) and the melting volume of ice coats (World Economic Forum, 2018, p. 79). Gradually, coastal biodiversity damages are accumulating and with them an estimated value of US\$125 trillion of ecosystem services every year (World Economic Forum, 2018, p. 15).

Herein, the loss of biodiversity which was estimated by 60% since the 1970's started to touch people by impacting their health, food-chain and economic activity with repercussions to their well-fare, throughput, and regional security (World Economic Forum, 2018, p. 6). Not surprisingly, the ecological deterioration was reasoned as nothing but the cause of human-race, corporate practices and industrial developments (Steffen et al., 2015, p. 1259855-1). This reasoning became more popular as a larger group of researchers adopted it. Among these, Hens and Boon (2003, p. 7) discussed how human disturbance is accountable for the damage that global ecosystem is undergoing. Altogether, businesses were seen as the biggest root for such ecological losses (Machado & Woestenburg, 2018, p. 1; Porter & Kramer, 2011, p. 4).

As some researchers believed that companies are ‘the disease’ behind biodiversity loss, (Porter & Kramer, 2011; Machado & Woestenburg, 2018), others such as Taherzadeh and Howley (2018, p. 1807) saw them as ‘the cure’ for the ecosystem deterioration. Their reasons lie in their belief that businesses, especially ones in land use and development, are associated with direct ‘ecological compensation’ that can reverse biodiversity loss (Taherzadeh & Howley, 2018, p. 1807). In line with this ‘cure’ view, some organizations have begun the implementation of biodiversity strategies to halt the ecosystem losses (Griffiths et al., 2018, p. 77). One of these strategies was termed ‘*No Net Loss*’ (NNL) (Griffiths et al., 2018, p. 77) and was in 2012 defined as “*The point at which the project-related impacts on biodiversity are balanced by measures taken to avoid and minimize the project's impacts, to understand on site restoration and finally to offset significant residual impacts, if any, on an appropriate geographic scale (e.g. local, landscape-level, national, regional)*” (IFC, 2012).

The ‘Mitigation Hierarchy’ also arose together with NNL as a “*tool designed to help users limit possible negative impacts on biodiversity from development projects. It requires that impacts should be first avoided, then reduced/mitigated and only as a last resort, it must be compensated (Offset)*” (Homfray & Butterworth, 2016, p. 5). More specifically, while NNL was rather considered as the ultimate biodiversity target, mitigation hierarchy was the framework used to attain zero net loss (Quétier et al., 2014, p. 5).

At large, both mitigation hierarchy and NNL strategies witnessed appreciation and a growing enthusiasm by companies to implement them (Taherzadeh & Howley, 2018, p. 1823). Nevertheless, they became subject to scrutiny. In essence, despite its ability to halt targeted losses, NNL was specifically criticized by Maron et al. (2018, p. 19) for not being able to nullify

biodiversity losses. Other researchers such as Phalan et al. (2017, p. 316) debated that NNL is rather becoming an excuse to ‘trash’ project sites, since ‘avoidance step’ from mitigation hierarchy strategy cannot always be attained (Phalan et al., 2017, p. 316). Overall, NNL was widely criticized on the basis that its zero net loss goal has not been practically attained on sites yet (BBOP, 2018, p. 5).

In light of this situation, a set of concerned parties including authorities, financial institutions, companies, and communal organizations (BBOP. Forest-Trends, 2019) moved toward establishing a more promising biodiversity strategy ‘Biodiversity-Net-Gain’ (BNG). BNG drew the attention of few scholars, namely Bull et al. (2013), Bull and Brownlie (2015) and Gibbons et al. (2015), who explored its concept and provided a description for it. According to BBOP-Business-Roadmap (2018, p. 6), BNG was introduced as:

“A goal for a development project, policy, plan or activity in which the impacts on biodiversity it [project] causes are outweighed by measures taken to avoid and minimise the impacts, to undertake on-site restoration and finally to offset the residual impacts, to the extent that the gain exceeds the loss.”

As BNG started gaining acknowledgement as the next desirable goal after attaining zero net loss, multiple stakeholders acquired a growing appetite for it (BBOP, 2018, p. 3). In practice nevertheless, businesses are finding this strategy more complex than it seems to be (Homfray & Butterworth, 2016, p. 15). A commonly spread idea is that BNG strategy is nothing but a mere passage from NNL to achieve net gain goal (Bull & Brownlie, 2015, p. 53). This reasoning sturdily insinuates a poor understanding of how BNG’s goal is achieved and the practical motivations for it. This was also emphasized by findings from an environmental institute CIWEM which declared that BNG is still in its ‘infancy’ stage. Here, the strategy is shadowed by a lack of understanding of not only how its goal can be attained and the drivers for its incorporation but also of the nature of its implications (CIWEM, 2018, p. 4). Likewise, in another study by Homfray and Butterworth (2016, p. 15), scholars accentuated how BNG strategy is still at a preliminary stage which makes it quite problematic for companies to achieve positive impacts. The situation becomes even harder as no results are yet being captured and no exact measurement tools can be used to quantify net gain progress (Homfray & Butterworth, 2016, pp. 13-15).

At large, BNG strategy is facing multiple in-practice problems seeing that it is not clearly apprehended and the drivers calling for its implementation are in need for more empirical investigations. While these problems were recognized, an intriguing observation has further reinforced our drive to conduct our research on biodiversity strategies and more specifically on BNG. In here, seven companies in the Swedish context were spotted to voluntarily side with BNG’s goal to achieve a positive impact on the environment, where no legislations are enforcing the act. Such observation was triggered by Mr. Anders Enetjärn; the CEO of Ecogain, a biodiversity consulting company, and founder of Business@Biodiversity Sweden. The latter is a network of companies that are voluntarily striving to achieve a long-term goal of net gain in Sweden. What was more intriguing for us is that the implementation of other biodiversity strategies (NNL and offset programme) were generally enforced by law in other countries such as in US, UK and Germany (Homfray & Butterworth, 2016). Hence, we saw that it is quite captivating how BNG strategy, albeit newly emergent, is being voluntarily strived for in Sweden. Herein, we reasoned that the seven companies offer a suitable and concrete business context to aid us in identifying the voluntary drivers behind BNG strategy. They also allow us to deliver a holistic understanding of the concept: what it is, who the main stakeholders are and

its implications (opportunities, risks and restrictions). Therefore, we decided that BNG strategy and its deliberate drivers are worthwhile issue to investigate.

1.2. Research Gaps

What we have come to realize during the conduction of this study is that academic literature is not as rich as expected and has considerably overlooked BNG strategy on several facets. A vast majority of information that we have extracted and used in this investigation, come chiefly from companies' annual reports and publications from environmental institutes. For instance, we have spotted a lack of focus and understanding on what BNG is. As we delved more into this topic, we recognized that little academic attention is paid to BNG's history of emergence, what it is in theory and in business practice. Likewise, little attention was paid to understanding its stakeholders and implications (opportunities, risks, and restrictions) and most importantly why companies strive for it. Interestingly, when BNG has been mentioned in academic research, it was mainly in relation to NNL strategy. This was recognisable in the example of the study by Bull and Brownlie (2015), where they focused on the non-triviality of the shift from NNL to BNG. The newness of this phenomenon could be a reason why BNG has not been a major interest for business scholars and why there is a gap in the academic research.

Interestingly, the issue of environmental sustainability in economic developments has modestly captured literature's attention before. This was reflected in the example of "Natural Capitalism" by Lovins et al. (1999) and "Corporate Sustainable Development" by Chow and Chen (2012). However, such literature was not BNG-specific where several disparities could exist between the drivers behind corporate sustainability and BNG strategy. Essentially, motivations for choosing to achieve BNG's goal could widely vary from sustainability's, and since the latter are still ambiguous and unclear, we expect our findings to be able to bridge this gap. BNG's voluntary drivers are in need to be explored and distinguished from other corporate sustainability approaches. Thus, this study aims to examine what motivates businesses to deliberately try to attain net gain goal.

Relating BNG subject to corporate social responsibility (CSR), multiple companies today are incorporating environmental responsibility within their management and are becoming more CSR and sustainability oriented (Rainy et al., 2015). What is interesting for us here is that these companies adequately communicate their social and environmental accountability to their stakeholders to create a visible CSR strategy (Crane & Glozer, 2016; Dawkins, 2004, Skoglund, 2015). However, Tench et al. (2014, p. 5) debated that businesses' alignment with CSR on the one hand and offering a transparent communication with stakeholders on the other hand, are two different approaches and not until recently, companies started looking at them from the same loupe. Herein, BNG strategy could be recognized as a part of CSR's scope but it is not clear if companies are using it to reflect this CSR shiny façade. Thereafter, we found it even more interesting to delve into questions of BNG's voluntary drivers to investigate who the major stakeholders are and what role they have in companies' attempt to achieve net gain goal.

At large, what we could grasp about BNG and the existing literature mostly covered drivers behind sustainability. This was seen in the example of Engert et al. (2015), Nidumolu et al. (2009) and Schaltegger et al. (2012). However, these descriptions of sustainability, including articles examining biodiversity loss, did not address BNG. Even in the case of the existing journals such as *The Journal of Clean Production*, the main focus was on observing how NGOs within biodiversity's practices can innovate their business model in order to become economically sustainable. This academic view does not fully describe or explain the current companies in terms of their voluntarily adopted actions to help reduce loss of biodiversity.

Accordingly, we saw the urgency to study BNG and aimed, through this study, to explore the overlooked parts. More specifically, we aimed to identify and provide explanations to companies' voluntary drivers. In doing this, we equally strived to deliver a holistic overview on BNG's concept, its stakeholders and ensuing implications. Since, we chose to conduct the study in the Swedish context, we found it important for other firms in similar contexts to have a practical understanding of BNG strategy when also aiming to achieve a net gain.

Zooming out on the wider research of sustainability, we constructed figure 1 based on the findings by Whiteman et al. (2013) to show readers where biodiversity and BNG fields stand under the realm of sustainability. In their study, Whiteman et al. (2013) landed a call for a larger specificity in corporate sustainability research, as academic studies about corporate sustainability have grown to become significant (Whiteman et al., 2013, p. 307). The authors presented nine planetary boundaries (see appendix 1) under which sustainability research was suggested to evolve. Among these nine planetary boundaries, biodiversity loss was reported as one of three which have reached a critical level and are in need for 'managerial intervention' (Whiteman et al., 2013, p. 329).

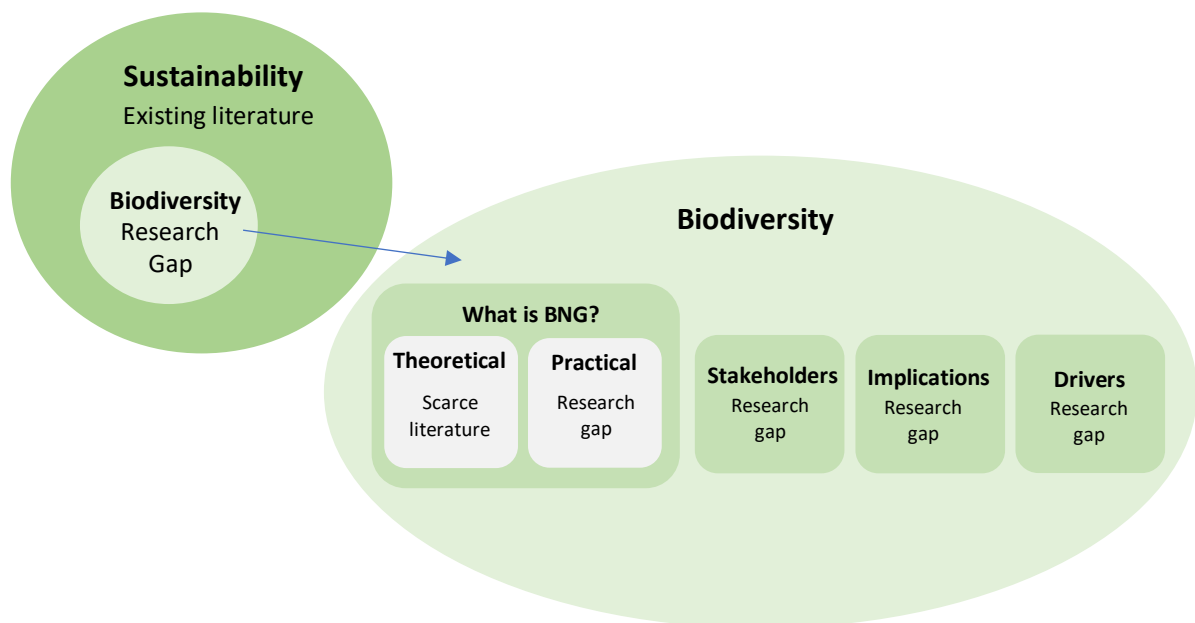


Figure 1. Visual Representation of Research Gaps

1.3. Study Purpose and Research Question

Our study comes to explore and explain what encouraged the observed companies to voluntarily work towards achieving net gain goal in Sweden. Essentially, as we have noticed an overlooked literature regarding BNG strategy and drivers, we decided to study this topic and build-on the subject. Our purpose therefore is to cover what has been omitted in academic literature. Seeing that sustainability literature and biodiversity from business approach was not as condensed nor sufficiently investigated, it was hard to locate any specific future research addressing BNG's topic. Thus, our study could not claim itself as an answer for former research questions or a continuation of prior academic studies. Therefore, an additional purpose of this this research is to explore BNG strategy by bringing about theoretical contributions that could be of a valuable addition to biodiversity academic literature and future research.

Touching upon practical additions, we intended to provide companies, policy makers and creditors with concrete insights on BNG's goal. Our purpose is to use the three sub-questions to reveal findings that can help us identify the companies' voluntary drivers and explain their behaviour in aiming towards BNG's goal. Ultimately, answering our research question while providing a holistic understanding on this topic can enable other firms to have better insights on BNG strategy. They can also be better encouraged to incorporate it within their decision-making. On another note, using a theoretical framework to answer the research question can also help overcome the disadvantageous condition of BNG being at an "infancy" phase.

In general, our resolution to reveal voluntary drivers was done in a specific context; Sweden. It is important to note here that we did not dedicate abundant emphasis in our theoretical chapter on other biodiversity strategies such as NNL since it is not the main focus of this study. It is rather depicted in this study to explain how BNG strategy has emerged. Additionally, to provide more trustworthiness to our research, we avoid taking a favouring position concerning the adoption of BNG' goal. Instead, we aim throughout this investigation to deliver relevant information concerning the masked areas of BNG.

Other purposes of this thesis incorporate extracting relevant information that could be of practical value for other companies in similar contexts. While our theoretical model can be applied on other Swedish companies, it could also have the potential to be applied in countries that are similar to Sweden in terms of economic policy and environmental legislation. Finally, leaning on the multiple case-studies constructed and the interviews with the seven companies, this report has the objective of excerpting concrete observations and examples of how BNG's goal is currently being worked with in present companies.

Ultimately, in order to fulfil the outlined research purposes, we identify the stated research gaps, adopt a theoretical framework, which we later apply in the context of Swedish companies. Henceforth, this study suggests the following research question:

RQ: What are the drivers that encourage companies to voluntarily work towards achieving biodiversity-net-gain in Sweden?

This research question is answered by means of three more specific sub-questions. We aim with the latter to cover three main points. The configuration for the latter sub-questions is chosen to deliver a coherent flow of knowledge, passing from general findings to more specific ones in the process of exploring BNG's voluntary drivers. We first attempt to provide a comprehensive understanding on BNG strategy and its background. Our reason in doing this is to help, not only ourselves but also the readers, understand the concept and better grasp the voluntary drivers behind it. We instigate our study by posing a broader sub-question regarding what BNG is. In answering this, we provide theoretical insights on what BNG is in theory. Herein, we start our theoretical chapter by exploring the roots of BNG and how it came to be from corporate sustainability literature view. We believe exploring the origins of BNG helps us gain a rich understanding of the concept in theory, the reasons that led to it and how it evolved to become a business practice. We cover how BNG relates to ecosystem services, corporate social responsibility, mitigation hierarchy and NNL. It is important to indicate that we explain what BNG is in theory, in order to parallel it with our empirical findings later. The goal here is provide a satisfactory answer to what net gain is in theory and in business practice. Thus, the first sub-question was proposed as follows:

1. *What is Biodiversity-net-gain?*

Afterwards, we seek answers on who the main *stakeholders* are in the process of adopting BNG strategy by companies. We reason that identifying these parties and outlining how they mutually impact and are being impacted by BNG strategy can help us spot more voluntary drivers to achieve BNG's goal. In answering this sub-question, we mainly rely on the empirical findings from the interviews to reveal the major parties that interweave with BNG's actions. Henceforth, our second sub-question is:

2. *Who are the different stakeholders involved in the process of striving towards net gain goal?*

At a third stage, we rely on our interviews' findings to find answers concerning the implications of working towards achieving BNG's goal. In doing this, we lean on NNL's findings from the literature review to compare both strategies' implications and conclude BNG's. We look at the various opportunities that come along this biodiversity goal. Also, as we aim to comprehensively explore the strategy, we equally cover the engendered risks and restrictions that follow companies' decision to halt and reverse biodiversity loss. We believe that uncovering the implications of BNG strategy, such as the opportunities for instance, can lead us to identify more potential drivers and explain companies' reasons to strive towards this goal. In this, we suggest the third sub-question:

3. *What are the different opportunities, risks and restrictions that companies face when striving towards BNG's goal?*

At a final stage, and after providing ourselves and the readers with relevant basic information regarding BNG strategy, we move on to answer our research question. In this, we use our findings from previous sub-questions to help us clarify and explain our empirical results of the semi-structured interviews. Understanding BNG, its main stakeholders and its ensuing implications helps us locate abundant insights which we believe will lead us to understanding and explaining the companies' voluntary drivers.

1.4. Expected Contributions

1.4.1. Expected Theoretical Contribution

With this study, we aim to contribute to the theoretical body of BNG strategy. We believe our theoretical chapter provides relevant insights on the origins of BNG strategy and indirectly draws a theoretical timeline on which concepts originated in this research, how they emerged and eventually led to BNG strategy. Likewise, our theoretical chapter equally seeks to explain the voluntary behaviour (defensive, accommodative, proactive) of seven companies in Swedish context that are deliberately working towards BNG's goals. Another theoretical contribution in this study is linked to our holistic approach on the framework that companies employ to apply BNG strategy. We, hereby, thoroughly explain the mitigation hierarchy and combine our theoretical and empirical findings to provide an evaluation of both NNL and BNG in terms of their implications. One more contribution concerns answering our research question. This study explores the voluntary drivers behind working with BNG strategy and generates findings what BNG is, its main stakeholders and implementation. We hope that this thesis offers future researchers a satisfactory theoretical ground, on which they can base to add to BNG's topic. Lastly, this study includes the possibility to apply our theoretical framework to other similar contexts to Sweden. This can be practical to identify other potential BNG's drivers and give room for future research to explore reasons why other companies are not aligned with net gain initiatives.

1.4.2. Expected Methodological Contribution

As we have previously stated in our research, Net Gain goal is newly emergent where not so many scholars decided to approach and cast light on its drivers. In this, our study takes an exploratory nature, aims to contribute to such methodological breaches and helps extend the knowledge on BNG. To achieve that purpose, our study adopts a multiple case-studies design to capture various information and analyse them as to build practical knowledge on how to work towards net gain goal. Likewise, this study embraces a comparative design where it combines secondary and primary data and compares relevant information to reveal the circumstances that encouraged this Swedish network of companies to align with biodiversity enhancing measures. The adoption of multiple case-studies design, comparative design and the exploratory nature under our specific context could help future researchers find other alternative methods to approach this topic and to add further values.

1.4.3. Expected Managerial and Practical Contribution

From a managerial and practical perspective, we believe our study has several contributions. On the one hand, generating explanations about companies' behaviour towards BNG strategy and the various drivers that encouraged them to strive towards net gain goal can help sensitize the corporate level of other companies in regards with the vitality of biodiversity in business. Likewise, by sharing and explaining the experience of our participant companies, others can be enticed to follow the same path. This is not exclusive to large companies as our findings are also deemed practical for entrepreneurs. Since socially and sustainably-oriented entrepreneurs aim to achieve an economic function while generating values to both the environment and society, BNG strategy can be highly interesting for them. In this, our findings can enlighten them and give them insights on net gain's anticipated outcomes. On the other hand, we believe this study also contributes to improving firms' performance. On a micro scale, revealing the voluntary drivers of BNG's goal and identifying its contributions to companies while adding to biodiversity can validate employees' cause to work with suchlike corporations. On another note, our findings can motivate employees' commitment to their jobs and give them reasons to push their companies to adopt BNG strategy. The third contribution is related to improving businesses' practical understanding of biodiversity strategy. Fundamentally, our findings are based on concrete examples from companies that are actively working with NNL and BNG strategies. This adds more credibility to our findings and fortify other businesses to follow our participants' footsteps. Equally, by offering insights on the benefits of working with BNG strategy such as managing permit issue, our findings can be beneficial to other businesses in overcoming similar in-practice challenges. Finally, we believe our study takes part in increasing authorities' awareness. Describing how BNG strategy comes as a solution to help businesses grow and simultaneously eliminate their environmental damages can capture the attention of concerned parties and authorities in Sweden. In this, the latter can work on improving BNG strategy and establishing smoother measures to encourage for its implementation in companies.

1.4.4. Expected Societal contribution

We equally believe our study aims to contribute to the well-being of societies. In its essence, biodiversity constitutes the backbone of economic growth and the welfare of future societies. Yet, its current situation is described as dire and in need for businesses to acknowledge its vitality and start incorporating its strategies. By providing an understanding on our seven companies' behaviour towards biodiversity strategies, explaining their voluntary drivers and the expected outcomes, our study encourages other businesses to follow biodiversity-oriented growth plans and strive towards net gain goal. On a micro level, our study seeks to raise communities' awareness on how biodiversity loss is embedded in firms' practices. In this, the

study aims to give people, like farmers and land owners who can be/are a target for industries, a voice to speak and to disapprove of corporations' negative practices that lead them to endure environmental damage. In a similar manner, this research equally aims to raise other businesses' awareness on the positive impacts of working with BNG strategy. By incorporating it, companies will be able not only to embellish their reputations, but also to gain their employees' and communities' support while reducing backlash from environmentally-concerned organizations. Eventually, both parties can be united under a common goal. On a macro level, our study equally seeks to contribute to societies by sensitizing authorities on the matter of business and biodiversity. The goal here is to help encourage policy makers to support companies that work with net gain goal and facilitate BNG' related procedures in order to help future generations have a more promising life in terms of biodiversity concern.

1.5. Limitations

Delineating the limitations section is highly important in our study because we believe it helps reinforce our research process and support our choices taken under different restrictions that could lead our readers to interpret findings differently. Our first limitation is linked to the novelty of biodiversity concept, specifically BNG strategy. Since the latter is newly-emergent where it has just started capturing businesses' attention worldwide, its theoretical body is in an embryotic phase and in need for deeper development. Hence, we could have possibly missed some necessary points in understanding biodiversity which could otherwise help us better explain our findings. This goes hand in hand with the fact that we are business students (Amna majors in Marketing while Christian in Business development and Internationalization). Thereafter, albeit the knowledge we have gained regarding biodiversity's strategies and how they are implemented in companies, personal limitations ascended as we are not environmental experts. We could have unintentionally omitted relevant material about other strategies or models that could be used to differently approach biodiversity and business topic.

Our second limitation is that we were not able to study all possible cases of every other company working with biodiversity strategies and net gain goal. In this study, the focus is on businesses that only operate in Sweden. This does not cover the other possible examples of BNG's voluntary drivers in other countries. On another note, we recognize that economic conditions differ from one country to another such as in emerging nations. Herein, firms might not have the same level of financial sufficiency or the focus on environmentally-oriented investments to consider the outlined BNG's voluntary drivers. Also, legal, environmental and social disparities between emerging and developed countries can be large and play a role in steering major business decisions in not prioritizing biodiversity loss. Accordingly, this has limited the variability of our findings and restricted our theoretical framework to a quite specific context, hence reducing the transferability of our conclusions.

Because of the limited number of firms voluntarily and actively working towards achieving net gain in Sweden, we had a small number of interviewees. This can impede the generalizability of our findings and also limit our possibility to gain larger insights about BNG strategy in Sweden. The country itself reflects various types of businesses from different industries in both private and public sectors. Herein, our conclusions could not cover every possible driver within the Swedish territory. Going over same ground, this limited number of companies (seven) adopting this biodiversity strategy restricted our wish to build larger database on companies in terms of BNG's goal and similarly limited us from proving a bigger understanding on companies' behaviour toward BNG strategy in Sweden.

Regarding our research design, this study incorporates a qualitative research with an interpretivist position, where we adjoin the former with semi-structured interviews. Consequently, our study can be subject to scrutiny and criticism regarding the quality of derived conclusions. We are aware that the adoption of “interpretivist paradigm” can lead us to unintentional subjectivity and can accentuate our personal standpoints. However, since the study examines the matter from our participants’ experiences and perceptions (Thanh et al., 2015, p. 24), the process of seeking answers can be tinted with unavoidable influence (Thanh et al., 2015, p. 25).

1.6. Key Definitions and Concepts

The following are definitions that have been **chosen** by us to explain scientific key-concepts that are used throughout this thesis and that should be clarified to ensure readers’ understanding of BNG subject. The decision to select some definitions and omit others was based on whether these definitions are ample and easy enough to be understood.

Biodiversity: “The variety of life and its processes. It includes the variety of living organisms, the genetic differences among them, the communities and ecosystems in which they occur, and the ecological and evolutionary processes that keep them functioning.” (Noss & Cooperrider, 1994, cited in Delong 1996, p. 738).

Habitat: “The living place of an organism or community, characterised by its physical (for plants) or vegetative (for animals) properties” (Allaby, 1998 cited in Bamford & Calver, 2014, p. 246).

Biodiversity Loss: “Long term or permanent qualitative or quantitative reduction in components of biodiversity and their potential to provide goods and services, to be measured at global, regional and national levels” (Eionet, 2019).

Ecosystem Services: “The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.” (BBOP-Business-Roadmap, 2018, p. 6)

Mitigation Hierarchy: “A goal for a development project, policy, plan or activity in which the impacts on biodiversity it causes are outweighed by measures taken to avoid and minimise the impacts, to undertake on-site restoration and finally to offset the residual impacts, to the extent that the gain exceeds the loss” (BBOP-Business- Roadmap, 2018, p. 6).

Biodiversity Offset: “Given by the Business and Biodiversity Offsets Programme, an international collaboration for the development of offset methodologies...Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people’s use and cultural values associated with biodiversity” (BBOP, 2009a, cited in Bull et al. 2013, p. 370).

NNL: “A goal for a development project, policy, plan or activity in which the impacts on biodiversity it causes are balanced or outweighed by measures taken to avoid and minimise the

impacts, to undertake onsite restoration and finally to offset the residual impacts, so that no overall loss remains.” (BBOP-Business-Roadmap, 2018, p. 7)

BNG/ Net Gain: “A goal for a development project, policy, plan or activity in which the impacts on biodiversity it causes are outweighed by measures taken to avoid and minimise the impacts, to undertake on-site restoration and finally to offset the residual impacts, to the extent that the gain exceeds the loss.” (BBOP-Business-Roadmap, 2018, p. 6).

1.7. List of Abbreviations

Business and Biodiversity Offset Programme (BBOP): “An international collaboration between over 70 companies, financial institutions, government agencies and civil society organisations. It aims to help companies to conserve biodiversity in an ecologically effective and economically efficient manner as they pursue their business goals” (Shaping Sustainable Markets, 2013).

International Union for Conservation of Nature (IUCN): “IUCN was created in 1948. It is a membership Union uniquely composed of both government and civil society organisations. It provides public, private and non-governmental organisations with the knowledge and tools that enable human progress, economic development and nature conservation to take place together” (IUCN, 2019).

International Financial Corporation (IFC): “IFC—a sister organization of the World Bank and member of the World Bank Group—is the largest global development institution focused exclusively on the private sector in developing countries. The Bank Group has set two goals for the world to achieve by 2030: end extreme poverty and promote shared prosperity in every country” (IFC, n.d.).

Chartered Institution of Water and Environmental Management (CIWEM): “Represents and supports a community of thousands of members and organisations in over 89 countries who are dedicated to improving water and environmental management for the benefit of the public. (Their) aim is to work towards a safer, more sustainable world. (Their) mission is to build a global community of water and environmental professionals dedicated to working for the public benefit” (CIWEM, n.d.).

Department for Environment, Food and Rural Affairs (DEFRA): Formed in 2001, “the UK Department for Environment, Food and Rural Affairs (Defra) is a government agency whose core purpose is to improve the current and future quality of life. Defra pursues its aim by integrating environmental, social and economic objectives, putting sustainable development into practice. A significant part of Defra’s work is concerned with preparedness for emergencies and contingencies, which fall within the remit of environment, food and rural affairs” (Poverty and Conservation, 2019)

The Economics of Ecosystems and Biodiversity (TEEB): “A global initiative focused on “making nature’s values visible”. Its principal objective is to mainstream the values of biodiversity and ecosystem services into decision-making at all levels” (TEEBweb, n.d.).

World Economic Forum (WEF): “The International Organization for Public-Private Cooperation. It engages the foremost political, business and other leaders of society to shape global, regional and industry agendas. It was established in 1971 as a not-for-profit foundation and is headquartered in Geneva, Switzerland” (World Economic Forum, 2019).

2. Literature Review and Theoretical Framework

Under this chapter, we present pertinent literature regarding our topic, and we present the theoretical framework we follow in this study to answer our research question. This chapter is divided into five main sections through which we try to build a coherent story on how biodiversity and business espoused each other and led to biodiversity strategies (NNL and BNG). In the first section, we reach back to the roots of business & biodiversity and provide an understanding of the BNG's origin. Under the second section, we relate our BNG research to sustainability and present three types of corporate sustainability strategies; defensive, accommodative and proactive which we use to conclude the behavior of the interviewed companies towards their BNG's goal. In the third section, we examine the various drivers under sustainability and adopt a particular framework that we use to identify and understand BNG's voluntary drivers. The rationale in doing so is to explore and compare how BNG strategy is different from old fashioned sustainability strategy and its drivers. This section is concluded with our model which we will apply to the seven companies to explore their drivers and finally their behavior in striving towards BNG. In the fourth section, we review findings regarding business & biodiversity. We also explore the drivers behind foreign early pioneering projects and describe how biodiversity from a business perspective emerged and what so far can be said about the concept from a cost or opportunity perspective. Finally, we enlarge upon the different business strategies and frameworks for biodiversity by discussing mitigation hierarchy, NNL, BNG, and how they relate to each other.

2.1. Understanding the Roots of Biodiversity Net Gain

2.1.1. Ecosystem Services

To date, there has been no conventionally accepted definition of ecosystem services, but rather a variety of standpoints regarding this concept and how it is associated with the economic length. When exploring ecosystem services, we have come to notice the existence of a strong focus from earlier publications on this concept in an endeavour to underline the role of biodiversity in the continuation of economic development. We believe that a common understanding of biodiversity-net-gain strategy (BNG) could be unearthed within the roots of ecosystem services. BNG could be mirrored in the weave that links businesses to their dependencies on ecosystem services. Thereafter, we believe that BNG could be presented in the literature as a succession of earlier scholars' work on ecosystem services and corporate sustainability.

Historically, ecosystem services were acknowledged as crucial to the maintenance of both social and economic systems (Young & Potschin, 2010, p. 3). Some researchers such as Costanza et al. (1997) and Hermansson (2018) reasoned that ecosystem services play an integral part in safeguarding humans' existence and well-being while attaining economic growth. Delving into the concept's delineation, Costanza et al. (1997, p. 253) introduced ecosystem services as follows: “*ecosystem goods (such as food) and services (such as waste assimilation) represent the benefits human populations derive, directly or indirectly, from ecosystem functions*”. Within the same scope, Daily (1997) also explored ecosystem services and defined them as “*the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfil human life. They maintain biodiversity and the production of ecosystem goods*” (Daily, 1997, p. 3). Similarly, more recent studies on ecosystem services like

the one by Millennium Ecosystem Assessment embraced the concept as “*the benefits people obtain from ecosystems*” (Fisher et al., 2008, p. 645). However, under a different approach, Boyd and Banzhaf (2007) did not acknowledge ecosystem services as environmental benefits that mankind reaps. They instead defined them as “*ecological components directly consumed [...]to produce human well-being*” (Fisher et al., 2008, p. 645).

Correspondingly, what one can take notice of under this study is the presence of disparities in ecosystem services’ definitions. Still, albeit the non-existence of a conventional description of ecosystem services, numerous publications, (Odum, 1971; Westman, 1977; Ehrlich & Ehrlich, 1981; Ehrlich & Mooney, 1983; Groot, 1987 and Daily, 1997), commonly glossed over this concept from a business perspective (Baggethun et al., 2010). A solid line of argumentation in the previous studies focused on evaluating the monetary worth of ecosystem services that will/already have contributed to economic development and helped in businesses’ expansion. Constanza et al. (2014), for instance, investigated the economic valuation of ecosystem services that were exploited in markets. Herein, researchers exhibited statistical evidence on how ecosystem services for the year 1997 generated the worth of US\$ 33 trillion (based on 1995 US\$). Gallegos et al. (2016), on the other hand, delved more into businesses reliance on the environment for their productions such as lands, coasts, and forests...etc. Based on their case study on Chile companies in the salmon industry, they argued that such businesses acknowledge ecosystem services as a part of their ‘production chain’. They, notwithstanding, do not fully identify these services as integral ‘factors of production’ (Gallegos et al., 2016, p. 44). This was also underlined by Watson and Newton (2018), who maintained that businesses do hinge on ecosystem services. However, seeing that the monetary quantification of such services is complex and still under development, companies do not consider ecosystem services in their decision-making. Hereafter, what one could observe in the light of former scholars’ work is the existence of a connexion between businesses and ecosystem services. Still, what could be further researched here is a question of when companies begin to appraise the role of ecosystem services and engulf them in their decision-making.

Verging upon prior studies that examined the future vitality of ecosystem services, we concede that such exemplified numerical guesstimates can always be subject to criticism. However, as of 2019, we also believe that development’s plans such as in infrastructure and agriculture industries could grow at a hastier pace. To illustrate, Business and Biodiversity Offset Programme (BBOP) (2018, p. 2) projected that current world economy would need to secure \$US90 trillion, which is nearly the double of the present global expenditure on infrastructure. Additionally, BBOP (2018, p. 2) explain how a part of these \$US90 trillion will be disbursed on groundwork projects to deliver sufficient traffic networks, health care, and other indispensable needs to run abreast 2030’s speculated demand. More estimates state that two-thirds of the same amount (\$US90 trillion) will be devoted to enabling businesses’ access to ecosystem services. By doing so, markets could be able to cover the needs of emerging economies along with the expected 35% growth in food supplies. At large, a study by the United Nation (2004, cited in Sandhu et al. 2012, p. 19) along with the recent one by BBOP (2018) approximate that nearly 9 billion people are anticipated to populate earth between 2030 and 2050. Thus, the urge to satisfy all these people’s demand could implicate deeper business engrossment with ecosystem services.

Another widespread perception of ecosystem-services was noted in this study. At large, the vitality of the former to businesses mostly echoed under examinations that focused on environmental damages and biodiversity loss (Young & Potschin, 2010; Cardinale et al., 2012; Bennett et al., 2015). However, today’s ecosystem degradation is not the only spur that evoked

great interest in ecosystem services. This idea reaches back to the late '60s and noticeably enraptured scholars' attention by the '90s. Factually, the concept of ecosystem services initiated throughout abundant publications on the role of environment in achieving both societal well-being and economic growth. Cork et al. (2001, cited in Young & Potschin 2010, p. 2) have traced the origins of the concept to find out that the Study of Critical Environmental Problems (SCEP) was the first to use the term "environmental services". Ecosystem services' concept grew more popular afterwards. Further refinements to the term "environmental services" as it appeared in the Study of Critical Environmental Problems (SCEP), started taking place. This was continued by Holdren and Ehrlich (1974) who built-up on the latter study (SCEP) and modernized the term to "public service functions of the global environment". In pursuit, Westman (1977) further polished the study and abridged this term to 'nature's services'. Eventually, this expression was curved into 'ecosystem services' and started being employed by scholars like Ehrlich in early 1980s (Mooney & Ehrlich, 1997 cited in Young & Potschin, 2010, p. 1).

Interestingly, other literature such as studies by Baggethun et al. (2010) and Armsworth et al. (2007) also argued that the origins of ecosystem services appeared within the context of community's reliance on the environment. Baggethun et al. (2010, p. 1213) discuss that the history line of ecosystem services can be divided into three phases (see figure 2). The first stage depicted 'origins and gestation of the concept' and took place between 1970 and 1980s. Throughout this decade, researchers' interest in ecosystem services surfaced under 'societal dependence' on natural resources. This perception was first evoked by Schumacher (1973, cited in Baggethun et al. 2010, p. 1213). The second phase covered ecosystem services' 'mainstreaming', which was the highlight of the 1990s. the concept interweaved deeper with biodiversity conservations programs like the one by Beijer Institute (early 1990's). In pursuit, ecosystem services were profoundly investigated with regard to monetary valuation of natural resources, notably across the study by Costanza et al. (1997). Finally, the last stage encapsulated the concept's 'emergence in markets' and businesses' decision making. It ascended during the late 1990s and still on the rise to date. This phase has encompassed examinations that strongly

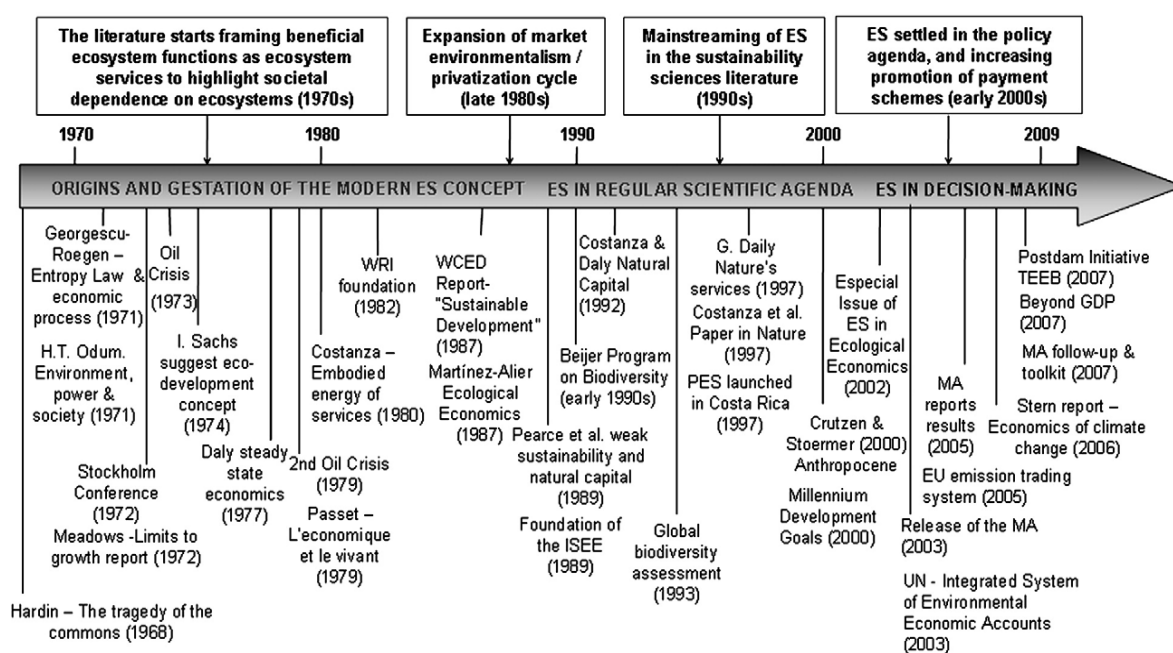


Figure 2. The Three Phases in the Historical Line of Ecosystem Services Concept (Baggethun et al., 2010, p. 1213)

related ecosystem services to biodiversity loss and has raised a line of argumentation about companies' free exploitations of ecosystem resources (Baggethun et al. 2010, p. 1213).

Further studies under this stage have associated ecosystem services with businesses' initiatives or regulated acts to halt and reverse biodiversity loss (Baggethun et al., 2010, pp. 1213-1214). Over the years, the depiction of the historical line of ecosystem services differed from one literature to another. Businesses such in infrastructure and agriculture recognize the role that ecosystem services play in their operations. Nevertheless, the problem still lays underneath companies and their willingness to consider the role of ecosystem services and their vitality in corporate decision-making (Gallegos et al., 2016).

Now that it has become ostensive that incessant harms to biodiversity are entangled with the economic system, many pressures have mounted regarding ecosystem services' ability to safeguard the future of upcoming generations (Groot et al., 2012). Ecosystem services cannot afford to be constantly regarded as 'inexhaustible' and markets' capitalization on natural resources cannot carry-on unnoticed or uncharged. Therefore, a necessity to monetarily assess the value of ecosystem services has emerged (Costanza et al., 1997; Blignaut and Moolman, 2006; Carpenter et al., 2006; TEEB in Policy, 2011, cited in Groot et al., 2012, p. 51). Here, quantifying the value of ecosystem services is mostly employed to determine where environmental restoration should be or how they can be extracted at the lowermost budget for the sake of economic growth (Crossman & Bryan, 2009). With this perception in mind, several academics saw the need to support this new position. Numerous publications ascended highlighting academics' efforts to research the significance of natural resources and ecosystem services' valuation (Goot et al., 2012, p. 51). Most significantly, the number of subsequent journals and articles has been holding a continual line of growth (see appendix 2).

With these perceptions in mind, the World Conservation Union and the World business Council for sustainable development (2007) looked at biodiversity degradation from a supporting standpoint. In their report, both institutions focused on companies that primarily exploit ecosystem reserves as inputs for their production and/or secondarily use the environment as a part of their operations. The same study has specifically criticised these businesses based on the argument that they are passing the burden of biodiversity loss to consumers. Under such circumstances, Hermansson (2018, p. 11) also debated that customers eventually bear the brunt of ecosystem losses by means of higher-priced good/services and/or elevated taxes. Hermansson (2018) further maintained that not all businesses have, as their central target, to protect ecosystem services from deterioration. Some companies rather focus on achieving a better financial health (Hermansson, 2018). Within this framework, scholars such as Carroll and Shabana (2010) and Hu et al. (2018) discussed how corporate social sustainability (CSR) emerged to tie both financial gains & economic development objectives with an accountable corporate behaviour.

2.1.2. Corporate Social Responsibility

When corporate social responsibility (CSR) ascended as a policy to integrate businesses' concerns for the environment, biodiversity was still a novel concept in the corporate business glossary (Reade et al., 2014, p. 53). Despite the focus of social scientists on ecosystem services and their positive link to corporations and social welfare, the latter (ecosystem services) along with biodiversity notion were still of an elusive value to companies in practice (Overbeek et al., 2013, p. 1; Reade et al., 2014, p. 53). Factually, when it has initially emerged, CSR was a rather traditional "*narrow notion*" (Sastararuji & Wottrich, 2007, p. 8). It was predominantly defined as the required actions that companies follow when making decisions in order to attain goals of

interest for themselves and the sake of the societal guideline and welfare (Bowen, 1953, p. 6). Essentially, the same authors suggested that businesses “*existed at the pleasure of society*”, where it operated as a moral agent to co-exist with its rivals (Bowen, 1953, p. 6). On the other hand, other studies by Carroll (1979), Wartick and Cochran (1985) and Wood (1991) instead probed CSR and described it as the corporate efforts to increase profits, strengthen workforce’s drive while lining-up with customers’ concerns (Sastararuji & Wottrich, 2007, p. 8). In consonance with this, Frederick (2006, cited in Moura-Leite & Padgett 2011, p. 530) encapsulated what CSR intended to serve when it first materialized in the 1950s and outlined them as follows:

1. The objective of maintaining a ‘public posture’ to reassure communities that resources are instead used for social ends and not for purely financial interests.
2. The objective of keeping abreast with rivals over the corporate resources.
3. The objective to manifest as corporate support for the noble causes.

As CSR progressed from such traditional context, it started to become rather composite, involving other several facets (Sastararuji & Wottrich, 2007, p. 8) one which has touched companies’ environmental impact. The addition of the latter layer to CSR was coined during the ‘90s by Elkington (1999) through his concept termed “*triple Bottom line*” (Sastararuji & Wottrich, 2007, p. 9). The main idea behind such notion dictated that businesses do not only aim for profits as their highest goal but equally strive to achieve that alongside delivering a social and environmental value (Sastararuji & Wottrich, 2007, p. 9). In another study, Arowoshegbe & Emmanuel (2016, p. 104) introduced triple bottom line as a form of reporting that consists of three principles “*by which a company should operate to concentrate on the total effect of its actions (both positive and negative)*”. The same authors (Arowoshegbe & Emmanuel, 2016, p. 104) presented the principles along these lines:

1. **Economic Line:** Dictates that the economy is a “sub-system” of sustainability since it is indispensable for the growth and survival of future generations. In this, the impact of a company’s economic performance and attitude towards the framework in which it operates, are both essential and uphold its ability to support future generations.
2. **Social Line:** Comprises social sustainability and its crucial role in either backing-up the company’s performance or negatively impacting it when disregarded. Social line accentuates the interaction between businesses and the community and aims at guiding businesses to achieve a more equitable framework regarding employees and customers.
3. **Environmental Line:** Concerns the urge to address environmental issues, especially those of corporations that have a direct industrial impact on the ecosystem in which they operate. This additional line also suggests that companies ought to work on meeting their growth needs without hampering future generations’ ability to co-exist.

Environmental sustainability continued to grow until it has become a buzzword under the scope of CSR. In his far-reaching research on how CSR can be comprehensively defined, Dahlsrud (2008, p. 4) introduced what he considered the five dimensions of the latter notion (see table 1). This table proposed that CSR can and should integrate corporate concerns and acts in attaining “*a cleaner environment*”. What is also important to notice under this proposed model is that it identified the voluntariness aspect of CSR. These voluntary aspects were, however, not accentuated under the environmental extent but rather under the context of delivering voluntary ethical values (Dahlsrud, 2008, p. 4).

Table 1: Identification of the Five Dimensions of CSR (Dahlsrud, 2008, p. 4)

Dimensions	Dimension it refers to	Example phrase
The environmental dimension	The natural environment	“a cleaner environment” “environmental stewardship” “environmental concerns in operations”
The social dimension	The relationship between business and society	“contribute to a better society” “integrate social concerns in business operations” “consider the full scope of their impact on communities”
The economic dimension	Socio-economic or financial aspects, including describing CSR in terms of a business operation	“contribute to economic development” “preserving the profitability” “business operations”
The stakeholder dimension	Stakeholders or stakeholder groups	“interaction with their stakeholders” “how organizations interact with their employees, suppliers, customers and communities”
The voluntariness dimension	Actions not prescribed by law	“treating the stakeholders of the firm” “based on ethical values” “beyond legal obligations” “voluntary”

Although CSR has, over the past decades, evolved into a broader concept with an environmental focus, biodiversity, and ecosystem services were still of vague and intangible values for corporations (Overbeek et al., 2013, p. 1). Overbeek et al. (2013, p. 1) discussed how biodiversity and ecosystem services started being exclusively of interest for policymakers, mostly due to their advantages. Kumar and Kumar (2007) built upon such belief and argued that **voluntary** corporate decisions concerning the **ecosystem and natural resources** were barely acknowledged since they were not yet part of businesses’ agenda. On the other hand, Kolk and Tulder (2010, p. 121) discussed that whereas corporate efforts to approach environmental concerns were existent, they were mostly devoted to evading any costs or risks in the process of obtaining operating licenses. This has mostly enclosed situations where companies were rather required by legislation to consider biodiversity protection policies within their operations (Kolk & Tulder, 2010, p. 121).

Correspondingly, Porter and Kramer (2006), Kolk and Tulder (2010) and Overbeek et al. (2013) believed that CSR’s manifestation in relation to biodiversity and ecosystem services began to deeply root and gain deliberate appreciation when companies became more alert to the benefits of environmental sustainability. Under the same stream of thought, Kumar and Kumar (2007) explored the field of ecosystem’s monetary valuation and were able to take the matter of rational corporate choices into a more exhaustive level. Throughout their findings, authors constructed and elucidated a ‘circular’ model that evidenced the linkage between the environment’s multiple values to businesses’ own rational decisions to protect it (see appendix 3).

As of today, CSR has gone far beyond the concept of the triple bottom line and its five dimensions (environmental, social, economic stakeholders, and voluntariness). Companies are becoming “*increasingly expected to take to heart issues of environmental and social sustainability in addition to sustainability of corporate profits*” (Reade et al., 2014, p. 55). Some other businesses, particularly within industries that are likely to undergo radical changes in the future years, are trying to transition beyond the current notion of CSR. Herein, often impelled by aspiring business developers, these companies attempt to re-figure and redesign their

business model and value chain as to be more involved in the goal of biodiversity preservation (Overbeek et al., 2013, p. 2). In this debate, CSR approaches emerged along with a stronger emphasis on stakeholders' corporate impact (Overbeek et al., 2013, p. 2).

CSR Approaches

Companies' outlook on CSR started transitioning from being a 'liability' to more of a 'responsibility' (Van Tulder et al., 2009) and their responsiveness towards stakeholders from being self-absorbed to more outward-looking (Overbeek et al., 2013, p. 2). Such transition gave birth to four CSR approaches: *inactive*, *reactive*, *active* and *proactive* (Van Tulder et al., 2009). To illustrate, the first approach designates firms that have not yet entered the transitioning phase of liability-responsibility, meaning that, they are instead incorporating CSR as a mean to "*achieve their objectives in terms of return on investment, sales volume or profitability*" (Sastararuji & Wottrich, 2007, p.11). Another driver for inactive corporations to be CSR-oriented here is the ability to endure the highly competitive market. In this, there is no stakeholders' engrossment but relatively more efforts to be efficient and capable of competing in the market with rivals who are endorsing CSR (Overbeek et al., 2013, p. 2). On the other hand, businesses under the reactive approach perceive CSR as a liability where they are bound to respond to stakeholders' 'expectations and norms' by reducing their harms on the ecosystem (Sastararuji & Wottrich, 2007, p.11). In doing so, these companies do not bring any changes in their business model or value chain (Overbeek et al., 2013, p. 2). As for the companies that follow the active approach, they often hold a conscious and rational choice in terms of environmental responsibility, regardless of whether or not they face pressure from stakeholders. Lastly, businesses that voluntarily and responsibly address the environmental harms at the beginning of projects' life cycle and encompass stakeholders in the process of doing it are instead called proactive firms (Overbeek et al., 2013, p. 2).

This transition from one approach to another is neither smooth nor fast. More often than not, it takes a business amassing reasons to switch from one approach to another (Overbeek et al., 2013, p. 2). In reality, companies may progress from a reactive approach to an active one because of being subject to public scrutiny. Hence, they may align with internal and external stakeholders' norms and adopt a defensive mechanism to shut down customers' criticism and flee threats from both regulations and non-governmental organizations (NGO's). Nevertheless, when the pressure becomes more constant and tightens-up the grip on those companies, the latter may give up their reactive attitude and progress towards a proactive approach (Overbeek et al., 2013). In here, with this transition comes along a need for major change at the level of the business model (Van Tulder et al., 2009). Seeing that stakeholders are interconnected with operative parts of CSR (Van Tulder et al., 2009, p. 20), Loorbach et al. (2010) argued that proactive approach brings about a 'restructure' of the organization's business model. This helps to be more effective in achieving positive environmental impacts (Overbeek et al., 2013, p. 2).

Hereafter, corporations' motivations to engage with the environment and biodiversity protection under the span of CSR can be sorted under three main types of activities: "value-driven, stakeholder-driven and performance driven" (Silberhorn & Warren, 2007; Maignan & Ralston, 2002, cited in Sastararuji & Wottrich 2007, p.11). When putting them one-to-one, these three correspond to the proactive, reactive, and inactive approaches. However, Sastararuji & Wottrich (2007) and Overbeek et al. (2013) argued that despite the nature of the chosen drivers, companies bring such approaches into practice, mainly under stakeholders' management. Overbeek et al. (2013, p. 2) precisely built upon this belief and debated that the different types of stakeholders are what conventionally impact those approaches.

Stakeholders' Role

Freeman (1984, cited in Sastararaji & Wottrich 2007, p.12) proposed the stakeholders' theory delineating that stakeholders' groups differ from one business to another. Even within the same company, diverse situations call for different relevant groups depending on the type of projects and the expansion plan. Additionally, the same author (Freeman, 1984) discussed how it could be unmanageable for a given firm to stick to one single group of stakeholders from the beginning of a project's life cycle to its end. Apace with this matter, Crane and Matten (2004, p. 50) acknowledged the different types of stakeholders that habitually emerge throughout the realization of a given project. They delved further into the subject and defined them as the "individual or group which either harmed by, or benefits from, the corporation (...) or whose rights can be violated, or have to be respected, by the corporation" (Crane & Matten, 2004, p. 50). Under this definition, Crane and Matten (2004) equally offered an exemplification of stakeholders who are commonly involved with businesses or can appear throughout the project. They later enlisted them as follows: employees, suppliers, shareholders, competitors, customers, the government, and the community. Given these perspectives, managing stakeholders could impact CSR approaches where it can call for one and disregard another.

Overbeek et al. (2013, pp. 2-3) maintained that internal stakeholders such as managers, employees are more betrothed in the commercial purpose and performance-driven activities of the business. They also reasoned that external stakeholders either primary or secondary play a vital role in the transition from one approach to another. In this, primary stakeholders (suppliers, creditors, shareholders, and policy-makers) often hold a strategic position among the other groups and are "*more or less permanent*" (Overbeek et al., 2013, p. 2). Their role in the business model can progress to be more significant as the business becomes more proactive, value-driven, and environmentally responsible. Gereffi (2005, cited in Overbeek et al., 2013) reasoned that the ability of primary external stakeholders to influence companies' CSR approach and particularly engage in biodiversity and ecosystem protection depends on the complexity of companies' business model and involvedness of its transactions.

When it comes to secondary stakeholders, more specifically the environmentally-related NGOs, the latter play a dual role. Whereof not actively contributing to ecosystem conservation could push NGO's to cast the light on such companies and potentially harm their reputation, aiming to halt and protect biodiversity and natural habitats can encourage them to reinforce companies' repute. NGOs can accentuate companies' responsiveness to stakeholders (Overbeek et al., 2013, p. 3). To illustrate, Overbeek et al. (2013) uncovered through their study the significant role that the Dutch board of the IUCN is playing in encouraging businesses to be environmentally oriented. Some researchers found that the Dutch IUCN is actively networking with several organizations from other countries to develop 'schemes' for corporate sustainable plans and promoting for them. With the expertise that such NGOs entitle on biodiversity and ecosystem, Overbeek et al. (2013, p. 3) maintained that they could aid numerous companies to integrate these new schemes within their operations and business model and eventually be able to contribute to biodiversity positively. Similarly, another example that shows the great impact that NGOs could have in emboldening businesses to be proactive is mirrored through the act of The World Wildlife Fund (WWF). The latter was recently able to detect 35 potential lands, which businesses can buy from mitigation banks to fight deforestation with and thus partially recuperate damaged biodiversity (Overbeek et al., 2013, p. 3)

In light of this, as the type of stakeholders differs, their degree of involvement also changes. At large, the more embedded their impact in economic activities of companies, the bigger their urgency to push businesses towards a more pro-active approach (Overbeek et al., 2013, p. 8).

Perhaps, the biggest challenge in such transition is rooted in the decision to re-design or modify companies' business models to side with biodiversity strategies' goals and be part of the solution instead of the problem (Overbeek et al., 2013, p. 8).

In essence, previous literature suggested that stakeholders are a strong force in companies CSR practice. As businesses' work with environmental issues and scholars' interest in these questions have progressed, CSR has been joined by similar academical concepts such as Corporate Sustainability (Montiel, 2008). There is no clear distinction among the arisen concepts (Montiel, 2008; Montiel & Delgado-Ceballos, 2014). And as our further research on drivers behind environmental actions was found within the research field of corporate sustainability, this will be presented in the following section. We are including both these frameworks to reduce the chance of missing any nuances in the answers of the interviewees as biodiversity might have sprung from CSR and/or corporate sustainability.

2.2. Corporate Sustainability Strategy and Business Case for Sustainability

As the academic literature was non-existent about the drivers behind corporate biodiversity strategies, we chose to explore the more all-encompassing field of sustainability research as biodiversity was found as one of the sub-themes of sustainability (Whiteman et al., 2013). Research regarding the 'drivers of corporate sustainability strategy' was mainly found in articles dealing with the 'drivers of the business case for sustainability' like in the example of Schaltegger et al. (2012). Within their research, Schaltegger et al. (2012) discussed that companies are moving from earning a profit along with contributing to a better environment, to where companies are making a profit through contributing to a better environment. The first of these behaviours is named 'business case **of** sustainability', while the latter is called 'business case **for** sustainability'. The concept of 'corporate sustainability strategy' and 'business case for sustainability' are better explained later in this section.

2.2.1. Corporate Sustainability Strategy

This section introduces a framework by Schaltegger et al. (2012), which presents the relationship between drivers of 'business case for sustainability' and the different 'types of corporate sustainability strategies'. We believe that this framework can help decode the answers from the interviewed companies and help us translate the findings from the research on 'business case for sustainability' as to see if there is a business case also for biodiversity.

An organization is said to have a 'corporate sustainability strategy' when it incorporates the following three pillars (i) ecology, (ii) economy and (iii) society (Baumgartner & Ebner, 2010, p. 77). There exist different strategies for sustainability (Baumgartner & Ebner, 2010, p. 76), and the research community has contributed with many different taxonomies for describing them (Baumgartner & Ebner, 2010; Roome, 1992). However, research made on the RDAP scale is recognized among both scholars in sustainability and CSR as a good point of orientation for managerial approaches to sustainability (Schaltegger et al., 2012, p. 11). The RDAP scale describes the corporate sustainability strategies with one of these labels: reactive, defensive, accommodative, proactive. What is important to note here is that an evolution of this scale has led to the exclusion of the 'R' when analysing the drivers of sustainable strategies' and their interrelations (Schaltegger et al., 2012). The exclusion of the reactive strategy was due to that a company following such strategy mainly strives to improve its product and the manufacturing process to follow legislation (Buisse & Verbeke, 2003). Buisse & Verbeke (2003) reasoned that the reactive strategy would not contribute to understanding the drivers behind the voluntary

actions of the participant companies towards sustainability. Therefore, they excluded it when examining drivers behind corporate sustainability (Schaltegger et al., 2012, p. 11).

What is more, seeing that legislation for BNG has not yet landed in Sweden, the reactive approach is not suitable in this context and will be disregarded from the analysis of this thesis's findings. Table 2 describes the three remaining strategies. The description of the three strategies' characteristics is based on the article by Schaltegger et al. (2012, pp. 10-11).

Table 2: Description of Three Strategy Types (Schaltegger et al, 2012, pp. 10-11)

Strategy type	Characteristics
Defensive	Reduction in energy usage can reduce long-term costs. Branding something as green can generate direct profit
Accommodative	The focus, which is modest, of efforts are on making the internal processes of the company more environmentally friendly. Measurements and objectives of sustainability is cautiously introduced. New product lines with more sustainable products may be launched but the core revenue logic or the core business of the company is not changed or questioned. Costs and externalities are kept separated.
Proactive	Social and environmental costs of externalities are accounted for and determines profitability of a project. "A proactive strategy pursues business and sustainability goals simultaneously and strives for business leadership through outstanding sustainability performance" (Schaltegger et al, 2012, p 12)

2.2.2. Business Case for Sustainability

In their article, Schaltegger et al. (2012, p. 2) asked whether or not it could be that companies have moved beyond CSR as something on the side of their primary business, into generating revenue through environmental and societal improvement (Schaltegger et al., 2012, p. 2). As described above, the authors distinguished 'business case *of* sustainability' as making a profit and coincidentally having environmental or societal benefits. 'Business case *for* sustainability' on the other hand was defined as making profits through contributing to environmental and/or social benefits (Schaltegger et al., 2012, p. 2). The concept of 'business case *for* sustainability' is relevant for us as it springs from voluntary social and environmental activities, which corresponds with the current case for biodiversity strategies in Sweden.

The research on the connection between environmental and economic performance has been studied and discussed since mid-1990s (Burke & Logsdon, 1996; Porter & van der Linde, 1995, Schaltegger et al., 2012, Rauter et al., 2017; Wagner & Schaltegger, 2003). In the early days of research, there was a debate for whether or not a business case or a definite link between voluntary environmental engagement and businesses existed (Schaltegger et al., 2012, p. 4). Such discussion evolved into exploring different types of associations that could exist between voluntary societal and environmental engagement and business success (Schaltegger et al., 2012, p. 4). Findings concluded that "*it is an illusion to believe that any automatic relationship exists between voluntarily societal activity and business success*" (Schaltegger et al., 2012, p. 4). There are indications that most companies seem to have the potential for one or several business cases for sustainability (Schaltegger & Wagner, 2006; Steger, 2004). The above has led to the assumption reached by Schaltegger et al. (2012) that a "*business case for sustainability has to be created – it does not just happen*". The concept of a business case for

sustainability provides the tools needed to explore and explain whether there is a business case for biodiversity that motivates the studied seven companies to engage with BNG in Sweden.

2.3. Drivers of Sustainability

In this section, we summarize the drivers found in the literature. These drivers will be used as a frame when interviewing the seven companies. They will also enable a comparison of the drivers of corporate sustainability strategies found in literature, to the drivers of a corporate biodiversity strategy as described by the interviewees.

2.3.1. Drivers of Business Case for Sustainability

Schaltegger et al. (2012) explored business case *for* sustainability and found the following core business drivers: cost and cost reduction, risk and risk reduction, sales and profit margin, reputation and brand value, attractiveness as employer and innovative capabilities. These drivers interrelate with the previously explained types of corporate sustainability strategies (Defensive, Accommodative, and Proactive) (see section 2.2.). Correspondingly, we adopted table 3 from Schaltegger et al. (2012, p. 13) to present this interrelatedness.

Table 3: Interrelations Between Corporate Sustainability Strategy and Business Case Drivers (Schaltegger et al., 2012 p. 13)

Core drivers of business cases for sustainability	Corporate sustainability strategy		
	Defensive	Accommodative	Proactive
Costs and cost reduction	Mainly cost and efficiency-oriented compliance activities (often “low hanging fruit” only)	Cost and efficiency-oriented activities actively pursued and linked to sustainability issues when possible	Cost and efficiency-oriented activities actively created to achieve sustainability goals; cost concept includes external social costs
Risk and risk reduction	Sustainability issues seen as a source of risk; activities aim at risk reduction (in contrast to precaution)	Sustainability and risk management seen as a complementary and opportunity-creating concepts	Sources of high risks are largely removed
Sales and profit margin	Products or product communication are adapted to reduce risks of sales decrease; cause-related marketing to “attach” a green image to unchanged products	Sustainability-oriented customer segments are partly acknowledged and served with specific products (besides existing conventional product lines)	Market-oriented strategies to gain competitive advantage by making sustainability-oriented products and services become the core of the company’s portfolio
Reputation and brand value	Reputational activities, rather reactive and mainly oriented toward risk reduction	Sustainability activities have limited potential to contribute to reputation and brand due to mainly internal focus	Sustainability is actively communicated and is a major driver of reputation and brand value; the company engages in boundary-spanning and stakeholder integration
Attractiveness as employer	Increased salaries to retain and attract personnel	Sustainability engagement (and related	Continuous education, innovative positions, social

		communication) partially increases attractiveness to some groups of employees and talents	attention (e.g. towards families) increase attractiveness to highly skilled workforce and new talents due to high sustainability reputation
Innovative capabilities	Innovations to obscure non-performance with regard to sustainability (e.g. "greenwashed" products)	Process, product, and organizational innovations limited by boundaries of existing business logic	Sustainability-oriented process, product, and organizational innovations transform business logic; sustainability problems and stakeholders are considered a key source of innovation

2.3.2. List of Voluntary Drivers

Based on the previous findings from the literature review, we reason that the model by Schaltegger et al. (2012, p. 13), forms a base to use when exploring the voluntary drivers of the participant companies. Schaltegger et al. (2012) explored the drivers under business case for sustainability and the different types of corporate sustainability strategies. Since biodiversity is a newly emergent sub-theme of sustainability (Whiteman et al., 2012, p. 307), the model could, due to the close relationship between both fields, be able to help us fulfil our purpose of exploring the drivers behind BNG goal. However, we believe that Schaltegger et al. (2012) have missed an important driver. Based on our literature review, meeting stakeholders' expectations is an interesting driver to explore, especially that the seven companies have shown voluntary initiatives in embracing BBNG. While Schaltegger et al. (2012) did not mention anything about stakeholders, we believe that meeting their expectations can be a potential candidate as a voluntary driver that encouraged companies to strive towards BNG's goal in the absence of legislation. We reason that in combining such driver with these authors' model, we will be able to better explain the companies' voluntary behaviour towards net gain initiatives. We have extracted the driver of stakeholder's expectations from the role of stakeholders' part (see end of section 2.1.2.) and presented it in table 4, along with the explanations of the companies' behaviour.

Table 4: Stakeholders' Driver and The Explanations of Companies' Behaviour

		CSR Approaches		
Drivers		Defensive (reactive)	Accommodative (active)	Proactive (proactive)
Stakeholders' Expectations		Businesses under the reactive approach perceive environmental activities as a liability where they are bound to respond to stakeholders' expectations and norms by mitigating their harms on the ecosystem	Companies that follow the active approach often hold a conscious and rational choice in terms of environmental responsibility, regardless of whether or not they face pressure from stakeholders.	Businesses that voluntarily and responsibly address the environmental harms at the beginning of projects' life cycle and encompass stakeholders in the process of doing it, are rather called proactive

By combining the model of Schaltegger et al. (2012) in table 3 and our additional stakeholders' driver as illustrated in the table above, we obtain the following structure as presented in table

5. This will be used during our discussion chapter to add knowledge to BNG’s voluntary drivers and explain the behaviours (Defensive, Accommodative and Proactive) that current companies are working with to achieve their goal. In this new table, we wish the reader to look at table 3 and Table 4 for the explanations of the drivers at the different types of strategies. We chose not to copy it into the new table in order to avoid repetition.

Overbeek et al. (2013) and Schaltegger et al. (2012) used different names of the three ‘CSR approaches’ or types of ‘Corporate Sustainability Strategies’. However, their definitions of the three stages overlapped significantly. Hence, in the combined table of identified drivers, we use the taxonomy offered by Schaltegger et al. (2012): defensive, accommodative and proactive. As the merged table will be used in the exploration of BNG’s drivers, we will name the three different stages as ‘corporate biodiversity behaviour’ to differentiate it from its sustainability past. ‘Behaviour’ was chosen instead of ‘strategy’ since we deem that defensive, accommodative, and proactive, are three different behaviours strategies that businesses adopt and reflect in striving towards a BNG goal.

Table 5: Interrelation Between Voluntary Drivers and Corporate Biodiversity Behaviours

Drivers	Corporate Biodiversity Behaviours		
	Defensive	Accommodative	Proactive
Cost and Cost Reduction			
Risk and Risk Reduction			
Sales and Profit Margin			
Reputation and Brand Value			
Attractiveness as Employer			
Innovative Capabilities			
Stakeholders’ Expectations			

Table 5 will be used in the analysis of the interviewees’ responses in order to see whether the drivers described in this section match the drivers derived from our interviewees. Once we have identified and explained the drivers, we use this table as a framework to deduce and label the corporate biodiversity behaviours of the interviewed companies.

2.4. Biodiversity and Business: From a Cost to an Opportunity

In this section, we wish to portray how biodiversity, in relation to the more general concept of sustainability, progressed from being regarded as a liability into a responsibility that is beneficial for securing future natural resources and ecosystem services. As of today, biodiversity is moving into being viewed as an opportunity. In the last part of this section, there is an introduction to the brief observations made regarding drivers and business cases for biodiversity. We believe that the development of businesses’ relationship with biodiversity is suspected to following the same trend as that with sustainability in general. The earlier literature on the connection between voluntary social or environmental activities and corporate economic success argued that firms face a trade-off between environmental activities on one side and economic performance on the other side. This had led to the view that companies are commonly better off when keeping minimum compliance with environmental activities (Schaltegger et al.,

2012, p. 5). In 2012, this perception had, however, changed among business researchers where more emphasis on the possibility of a win-win situation was being attributed. This position was further strengthened by another article from 2012 by Kiron et al. (2012), in which it was argued that the point was getting closer where a majority of companies engaging in sustainability also were gaining a profit through that engagement. 31% of the respondents reported that their firms were profiting at the time from sustainable business practices (Kiron et al., 2012, p. 70). This opinion was, however, not held by everyone. The perception relating to responsibility and opportunities within sustainability was shown to differ between key actors (Van Den Burg & Bogaardt, 2014, p. 1).

Looking at biodiversity, Houdet et al. (2012) described how businesses' relationship and understanding of biodiversity shifted in conjunction with the notion of sustainability itself. Particularly, how biodiversity is connected with the business had changed from being a liability, bringing costs due to compliance of legislation, to an appreciation of biodiversity's cruciality as "*key raw materials, products sold or sources of new technologies*" (Houdet et al., 2012, p. 43). A report by PwC (2009, cited in TEEB, 2010, p. 2) confirmed the findings by Houdet et al. (2012) and showed that an understanding of companies' interrelationship with biodiversity had in 2009 began to emerge among a selection of CEOs of major corporates. Among the 100 largest companies (by revenue) in the world, it was found that 18 companies had mentioned biodiversity and, or, ecosystems services. Among these 18 companies, six businesses had reported their actions to reduce impacts on biodiversity and ecosystems deliberately, but only two identified the latter as a 'strategic' issue. To summarize, biodiversity has followed sustainability in going from a liability to an opportunity, at least according to the little research and the reports available. Below follows an overview of what reports and current research state about the drivers of a corporate biodiversity strategy.

2.4.1. Business Case for Biodiversity

IUCN (2016) debated that business cases for biodiversity do exist. Fundamentally, the companies complying with BNG's goal have the potential to gain a "*competitive advantage by, for example, avoiding costs, delays caused by protests about biodiversity impacts, and benefiting from a credible reputation for sound biodiversity management*" (IUCN, 2016, p. 2). When investigating the existence of a business case for biodiversity, Van Den Burg and Bogaardt (2014) had a different perspective. They emphasized that it depends on who is asking the questions, i.e., whose frame one should look through. As an illustration, businesses over the past decades were not able to sense that there was a "*business case for protecting ecosystems and biodiversity*" in 2013 (Van Den Burg & Bogaardt, 2014, p. 183). Inversely, policymakers relatively perceived it as a corporate responsibility to assume accountability for biodiversity loss. Hereafter, as companies recognized that environmental responsibility was not put on customers' shoulders, they saw the latter (customers) as a mean to pay for these new emergent biodiverse businesses (Van Den Burg & Bogaardt, 2014, p. 183). In order to understand how companies can potentially create a business case for biodiversity, it is useful to understand how business and biodiversity are interconnected. An example from a Chinese wood industry demonstrated such interconnectedness. In the period 1941-1981, Chinese companies and government logged 75 million hectares, of which more than 90% was a non-plantation forest. This logging resulted in a significant loss of ecosystems where watershed protection and soil conservation were the direst ones. Fifteen years later, the area had a severe drought which lasted for 267 days. The draught affected agricultural businesses, industrial water uses, and the domestic water of people in Northern China. The following year, the area had flash flooding, which resulted in the death of 4,150 people and economic damages of approximately US\$30

billion (TEEB, 2010, p. 5). This example shows the interdependencies of companies and biodiversity. If you protect biodiversity, you also protect the future market.

The Economics of Ecosystems and Biodiversity divided the effects of biodiversity loss into *direct effects, indirect effects, and externalities* (TEEB, 2010, p. 5), as shown in table 6.

Table 6: The Levels and Example of Effects from Loss of Biodiversity (TEEB, 2010, p. 5)

Level of effect	Example of effects
Direct	<ul style="list-style-type: none"> • Loss of raw materials • Loss of basic infrastructure (electricity, water)
Indirect	<ul style="list-style-type: none"> • Reduction of buying power of costumers (due to relocation, destruction of their infrastructure and economic property)
Externalities	<ul style="list-style-type: none"> • The destruction of ecosystem itself (habitats, arts) • Relocation of people • Death of national or global citizens • Health and environmental effects from loss of biodiversity, such as poisoned drinking water affecting both the health of humans but also reduces the availability of fish for humans to eat

2.4.2. Market Potential of Biodiversity

One aspect of profitability under biodiversity is how large the expected market can be. Fittingly, researchers in TEEB (2010) created a table summarizing the market size for biodiversity and ecosystem services. The largest market for biodiversity and ecosystem services is expected to be within the agricultural sector (TEEB, 2010, p. 11). In here, production needs to convert into organic or upgrade to a new standard such as ‘conservation grade’ (TEEB, 2010, p. 11), which guarantees a biodiversity-positive production. Conservation grade is a concrete example where the farmers have to reserve 10% of their area to four specific types of habitats in order to increase the amount of wildlife on the farms (Fair to Nature, 2019). According to the information in appendix 4, there is a substantial future market value for biodiversity and ecosystem services. However, to reach a business case for biodiversity, business opportunities must equally exist. TEEB (2010) suggested that the inclusion of biodiversity into a company’s strategy can help identify new business opportunities. TEEB (2010, p. 10) listed the following four as instances of such opportunities:

- Reducing input costs through improved efficiency.
- Developing and marketing low impact technologies.
- Managing and designing projects to reduce their footprint.
- Professional services in risk assessment and management/adaptation.

Contrasting the above-listed opportunities within biodiversity, other researches criticized the rationale behind the business case for biodiversity (Van Den Burg, 2014). In this, criticism mainly focused on the differences between government’s and businesses’ standpoints regarding the subject of business and biodiversity. It was argued that policymakers, in the context of Austria, lay complete responsibility on business to account for biodiversity loss. Conversely, corporations recognize that such concern cannot be addressed solely on their part and that the responsibility to conserve biodiversity is ought to be shared. Substantially, businesses started to request the government to establish new standards and improve the enforcement of current

regulations as to be helped in the transition (Van den Burg et al., 2014, p. 183) towards the proactive strategy.

2.5. Biodiversity Under Business Practices

In this section, we go through the different ways that companies bring biodiversity under their businesses. We start with the mitigation hierarchy that has been used by companies as a framework to work with biodiversity, especially in the exploitation of new lands. Afterward, we explain NNL and BNG, which are the two main biodiversity strategies.

2.5.1. Mitigation Hierarchy

With more pressure being put on biodiversity, continuously decreasing the provision of ecosystem services, several environmental protection measures emerged (Phalan et al., 2017, p. 316). Among those, we distinguish ‘mitigation hierarchy’. Mitigation hierarchy was defined by the Cross-Sector Biodiversity Initiatives (CSBI) (2015, p. 3) as:

“A tool designed to help users limit, as far as possible, the negative impacts of development projects on biodiversity and ecosystem services. It involves a sequence of four key actions ‘avoid’, ‘minimize’, ‘restore’ and ‘offset’—and provides a best-practice approach to aid in the sustainable management of living, natural resources by establishing a mechanism to balance conservation needs with development priorities.”

Ensuing this definition, multiple researchers such as Tallis et al. (2015); Phalan et al. (2017) and Alridge et al. (2018) claimed that mitigation hierarchy is not precisely a ‘biodiversity strategy’ but rather a decision-making framework to mitigate businesses development plans. CSBI (2015, p. 5) debated that mitigation hierarchy could be used as an “*implementation framework*” to achieve biodiversity protection goals of either NNL or BNG. It is important to note that the application of mitigation hierarchy is required by law in some countries like in the UK, where the government obliges companies to ensure environmental protection as a result of damaged project sites (BBOP, 2010). Mitigation hierarchy consists of four prioritized stages ‘avoidance’, ‘minimization’, ‘restoration’ and ‘offsets’. These four are applied in that stated order to alleviate serious businesses’ activities on biodiversity. To better understand and help readers apprehend how biodiversity loss can be mitigated in practice, we adopted an illustration by Arlidge et al. (2018, p. 337) depicting the application of the four stages of mitigation hierarchy in the example of palm-oil industry (see appendix 5). We herein, explain those stages as follows:

Avoidance

Avoidance is considered the first most crucial step to prevent biodiversity harms (Forest Trends, 2017). An example of how companies can avoid creating negative impacts is by placing road projects outside the range of natural habitats or any rare strategic species’ reproduction lands (The Biodiversity Consultancy Ltd, 2019). At large, avoidance is considered to be the most overt, cheapest, and easiest biodiversity’s measures to halt environmental losses. One challenge, nevertheless, is that it requires to be implemented in the early stages of a project life-cycle in order to be effective (The Biodiversity Consultancy Ltd, 2019).

Minimization

When an impact cannot be avoided entirely, minimization is a second measure to reduce either the “*intensity, extent or the duration*” of the impact (CSBI, 2015; Forest Trends, 2017; The Biodiversity Consultancy Ltd, 2019). Minimization can be incorporated through decreasing the

release of pollutants into wildlife and habitats, designing powerlines that prevent bird electrocution or constructing protected wildlife crossings when building roads and highways (The Biodiversity Consultancy Ltd, 2019). However, there are some constraints in engaging with minimization such as its high implementation costs. Since this measure is usually applied throughout the length of projects, some unexpected expenditures can arise in the form of operating costs, which often require largely expensive actions (CSBI, 2015, p. 45). In here, companies might not be able to cope with accumulating expenses.

Restoration

Restoration aims to repair companies' residual negative impacts which were not able to be avoided or minimized (CSBI, 2015, p. 9). Sometimes, it might often be *"impossibly challenging"* to restore biodiversity loss (e.g., extinction of particular species) or extremely costly to mend the engendered results. Here, *"restoration may instead involve land reclamation or ecosystem rehabilitation to repair project impacts and return some specific priority functions and biodiversity features to the ecosystems concerned"* (CSBI, 2015, p. 9). Restoration is normally applied either within the project operation or towards the end of its life-cycle. It often takes place on-site and is used to refurbish both direct and indirect impacts (CSBI, 2015, p. 9; The Biodiversity Consultancy Ltd, 2019). An example of restoration measure is planting trees to steady soil that has been excavated. Avoidance and minimization might not always be successful in preventing the drastic impacts of companies' activities. In some situations, even restoration cannot repair the damage as it might not be feasible *"to return such degraded areas to their pre-disturbance state"* (CSBI, 2015, p. 56). What is more, businesses can go way deep in the execution of their project to the extent where they cross boundaries where ecological features of the used site become beyond recovery (CSBI, 2015, P. 56). Quantification of restoration is also a as it is still unclear what could/could not be restored and how/when to determine if the company is heading towards its restoration objectives (CSBI, 2015, P. 57).

Offset

Lastly comes offset and it can be defined as the *"measurable conservation outcomes, resulting from actions applied to areas not impacted by the project, that compensate for significant, adverse project impacts that cannot be avoided, minimized and/or rehabilitated/restored"* (CSBI, 2015, p. 9). Similar to what has been illustrated regarding mitigation hierarchy, multiple researchers and biodiversity specialists argued that offset is commonly implemented as a step towards achieving NNL or BNG goal (CSBI, 2015). Offsets measures are considered compound and pricey (The Biodiversity Consultancy Ltd, 2019). In many cases, companies are often advised to dedicate more efforts to halt biodiversity degradation in the first three stages and only use offsets as a last resort (The Biodiversity Consultancy Ltd, 2019). When it comes to constraints, offset also has some. Interestingly, offsetting appeals to stakeholders and helps companies earn their financial support and achieve a 'social success'. However, it might face technical issues such as the long-time interval (5-10 years) to start witnessing positive change on the area to offset (CSBI, 2015, p. 70). In case the engendered losses can neither be avoided, minimized nor restored, companies are required to buy biodiversity credits from biodiversity banks to offset their environmental impacts on the development site (CSBI, 2015, p. 66). However, more often than not, such practice known as *"buying off the shelf"* is criticized and considered by people and environmental communities as an excuse to trash biodiversity sites. We explain mitigation banking in our discussion findings and discussion chapters.

To summarize, mitigation hierarchy is often implemented in *"industrial sectors like mining, energy, and manufacturing"* as a framework to help businesses manage their activities toward limiting their negative impacts on biodiversity (Aldridge et al., 2018, p. 337). Throughout these

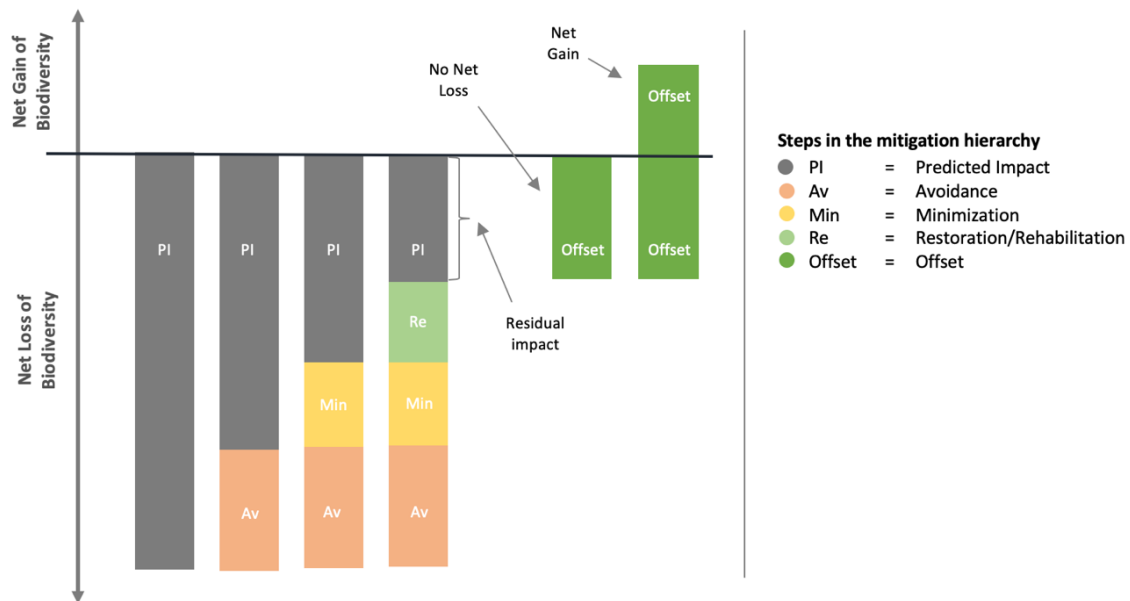


Figure 3. Mitigation Hierarchy (BBOP, 2018, p. 3)

four stages, biodiversity protection plan is claimed to attain NNL gradually or eventually BNG (Alridge et al., 2018, p. 337). In this context, we suggest figure 3 by BBOP (2018) to graphically depict how, over time, the four steps can be followed to achieve NNL or BNG. Firstly, as the graphic shows, companies' anticipated impacts are addressed through avoidance measure, then minimization and restoration. At each level, these impacts are expected to shrink as companies move to the subsequent stage. Eventually, all damages are annulled through offset, reaching no net loss (NNL) (Forest Trends, 2017). Any additional offset actions, over the years, would ultimately build up to attain a net environmental gain.

2.5.2. No Net Loss (NNL)

No-net-loss strategy (NNL) initially emerged in the United States and under some European environmental regulations during the 1970s (Bull et al., 2018, p. 64). The term NNL was later on popularized in 1988, during the American election campaign of George H. W. Bush (Maron et al., 2018, p. 19). As the American president pledged to diminish businesses' environmental impacts until no ecosystem losses can be spotted (Salzman & Ruhl, 2006, p. 1), NNL became a "buzz phrase" in biodiversity conservation strategies (Maron et al., 2018, p. 19). We use figure 4 to depicts the growth of those firms in the mining sector and others between the period 2000-2011.

In June 2014, an international conference was held in London to certify the integration of NNL within businesses' development plans as a way to halt biodiversity loss caused by corporations (BBOP & Forest-Trends, 2014). Countries such as Columbia, France, Germany, Netherlands, and Peru announced and initiated working with a new regulation that obliges companies to strive towards nullifying negative impacts. What is more, NNL strategy has become an essential "lending requirement for major financial institutions" such as IFC in granting loans for businesses to initiate their projects (Bull et al., 2017, p. 64; Maron et al., 2018, p. 19).

Businesses themselves, recognized the corporate advantages of this strategy amid the big debate over NNL's ability to reverse negative impacts and the possibility of NNL becoming enforced by legislation (Rainey et al., 2014). These advantages could be seized if they voluntarily and explicitly implement NNL (Rainey et al., 2014). Gradually, the number of firms that openly

aimed to achieve this strategy's goal started to grow, and according to Rainey et al. (2014), it comprised the largest 500 businesses in the world by income. We use figure 4 to depicts the growth of those firms in the mining sector and others between the period 2000-2011.

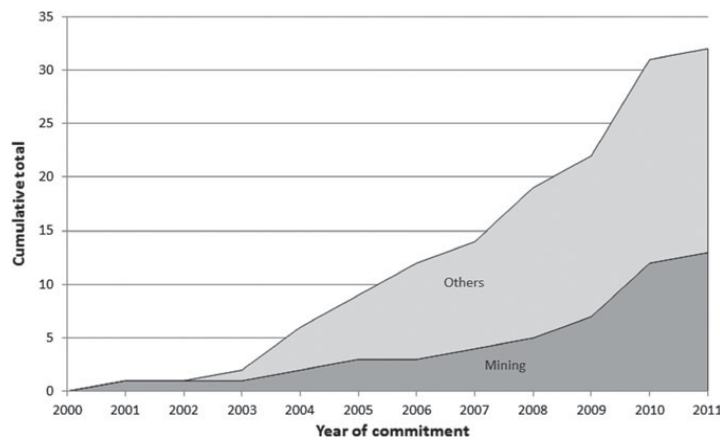


Figure 4. Representation of The Number of Companies Explicitly Aiming to achieve NNL Goal (Rainly et al., 2014, p. 236)

Opportunities of NNL Strategy

The growing acknowledgment of business case for sustainability has led numerous companies to recognize the opportunities of voluntarily striving to achieve NNL goal and openly communicating it to stakeholders (Rainey et al., 2014). Opportunities were identified under five different categorises; operational, regulatory and legal, reputational, market and product opportunities and financing.

First and foremost, striving to implement NNL strategy helps companies to seize an *operational opportunity*. This means that the latter can obtain and maintain easier access to licenses in order to operate on lands and use environmental resources (Rainey et al., 2014, pp. 232-233). Companies can also access another operational opportunity by explicitly mirroring their efforts to attain an NNL goal. The latter is encapsulated in their ability to evade any interruptions or delays triggered by community' complaints or objections related to operating on lands and degrading ecosystem services (Rainey et al., 2014, pp. 232-233).

Regarding *regulatory and legal opportunities*, companies will be able to reflect monetary values they earn on the long-term by simply siding with regulations' objective to nullify biodiversity damage on the environment. This is usually done by attracting stakeholders and their financial support. In doing so, companies gain the support of leading policy-makers as they are mirroring a good example of the several co-benefits, they earn from complying with legislation. They also help improve policies and boost their image, while giving reasons for other companies to follow the same path (Rainey et al., 2014, pp. 232-233).

When it comes to *reputational opportunities*, Rainey et al. (2014, pp. 232-233) argued that explicitly disclosing the intention to attain no environmental loss enhances the accountability of the business and improves its employees' devotion and loyalty to it. This finding goes hand in hand with the *market and product opportunities* since compliance with NNL strategy is believed by Rainey et al. (2014, pp. 232-233) to differentiate companies and set them apart from their rivals. The same author equally reasoned that customers, themselves, appreciate corporations' efforts to respect their environmental standpoints and answer their green "*purchasing policies*" when choosing between products.

Lastly, at the time where NNL was introduced, it led the European Union to undergo a great change in how to address biodiversity loss (Taherzadeh & Howley, 2017). Although it emerged as an obligation, it helped many companies stay advantageous by fulfilling and keeping-up with biodiversity's need for protecting regulations. This has succeeded to captivate investors' attention and encourage financial institutions' willingness to finance them (Rainey et al., 2014, pp. 232-233).

Risks

Despite all these given opportunities, NNL strategy was still subject to scrutiny because of particular challenges and risks, which rose during its implementation. Just like in the case of opportunities, risks were also identified under five categories. Starting with *operational risks*, explicitly pledging to offset degradation and attain no environmental losses could be quite costly. Essentially, Rainey et al. (2014, pp. 1-2) maintained that the controlled access to natural resources can disrupt the planned process of the supply chain. This eventually diminishes a company's expected productivity and cause it to miss meeting its clients' demand. Hence, it could potentially endure losses. What is more, such high costs of following the objective to offset adverse impacts, adjoin firms' reduced productivity and together, cause them to be at a competitive disadvantage compared to rivals (Rainey et al., 2014, pp. 232-233).

Moving on to *legal risks*, by openly committing to achieving NNL goal, companies might risk project delays from the side of regulations as they always have to consider these businesses' expected impacts on the environment, and how they plan to offset them when avoidance is no longer possible (Rainey et al., 2014). Additionally, not being able to stick to or attain such NNL goal in the long-term could put these businesses at risk of fines and penalties for not being capable of reversing the damage that was promised. Therefore, NNL strategy becomes a liability for companies (Rainey et al., 2014).

Additionally, because “*quantifying the biodiversity losses [...] and resource uses remains a significant challenge*” (Wilting et al., 2017, p. 3999), it might be quite difficult for companies to measure their environmental impact. This becomes harder as they have to reverse it later on. This issue could put their *reputation* on the edge, especially that they had committed to this strategy but could not keep their promise or they had deviated from this goal. This is highly associated with *product and market risks*. Businesses, herein, could risk losing their operating license and face backlash from communal parties, which may push customers to protest and eventually boycott their products (Rainey et al., 2014, pp. 232-233). Within the same framework, Walker et al. (2009), Ferreira et al. (2014) and Sullivan and Hannis (2015) (cited in Phalan et al. 2017, p. 316) debated that the NNL strategy has been heavily criticized by the public as a ‘license to trash’ and a tool to legitimize “*development that would not otherwise have been permitted*”.

As explained above, “*planning, measuring, reporting and providing offsets*” can be quite expensive, results in additional unexpected costs and lengthens the duration of projects (BBOP Business Roadmap, 2018, p. 10). This consequently could lead to financial risks and would likely decrease businesses' chances to continue acquiring financial support seeing that investors and stakeholders are rather interested in seeing results more than mere promises (Rainey et al., 2014, pp. 232-233).

To summarize, all these explained opportunities and risks are recapitulated in the following table (Table 7), which we have adopted from Rainey et al. (2014, p. 233). At large, the

objectives of the NNL strategy played a major role in helping businesses mitigate their environmental losses to some extent (Bull & Brownlie, 2017). Nevertheless, its various limitations and risks call for a far more promising solution, that not only aims to neutralize companies’ negative impacts but equally seeks to surpass them by reaching positive biodiversity outcomes (Bull & Brownlie, 2017). This guides us to the most recent biodiversity strategy, ‘biodiversity-net-gain’, which we discuss in the last coming section of our theoretical chapter.

Table 7: Implications of Implementing NNL Strategy for Companies (Rainey et al., 2014, p. 233)

Category (from Hanson et al. 2012)	Opportunity	Risk
Operational	Ecosystem services to support operations	Reduced productivity; scarcity & increased cost of resources; operational & supply chain disruption
Regulatory & legal	Leadership with governments to help shape policies & regulations	Fines & project delays; liability for biodiversity impacts
Reputational	Preferred operator status; improved quotas; staff loyalty	Loss of ‘social license to operate’: restricted access to land & resources
Market & product	Brand differentiation; increased profit margins; compliance with purchaser policies	Damage to brand; boycotts
Financing	Access to finance	Reduced finance opportunities; reduced credit quality

2.5.3. Biodiversity Net Gain

BNG strategy was defined by BBOP Business Roadmap (2018, p. 7) as:

“A goal for a development project, policy, plan or activity in which the impacts on biodiversity it [project] causes are outweighed by measures taken to avoid and minimise the impacts, to undertake on-site restoration and finally to offset the residual impacts, to the extent that the gain exceeds the loss”.

BNG began gaining traction throughout a conference in 2014 (Bull & Brownlie, 2015, p. 53) which adjoined various companies from several industries, government agencies, financial institutions and communal organizations (BBOP. Forest-Trends, 2019). During this seminar, much talk concerned looking beyond NNL strategy’s goal and encouraged the present parties to aim for a far greater goal which is achieving a positive impact on biodiversity (Bull & Brownlie, 2015, p. 53). Within the same context, Baker; a biodiversity specialist, debated that companies are undergoing a set of conditional consents to acquire projects’ license such as the ‘environmental impact assessment (Baker, 2018). Still, these consents do not oblige these firms to attain no net loss or a net gain. Hence, Baker argued that *“losses of biodiversity from infrastructure projects are not because developers run riot, but from a faulty consent system that needs fixing...[where] the principle of delivering a net gain for biodiversity can be that fix”* (Baker, 2018).

Within this stream of thoughts, the inclination toward biodiversity strategies with more positive impact compared to ‘neutral’ NNL has started gaining appeal to stakeholders and businesses that are *“seeking a positive strategic message”* (Bull & Brownlie, 2015, p. 53). On a global

scale, several corporations saw potentials in BNG as a novel strategy and announced that they are pledging to biodiversity commitment and adding ‘net gain’ goal as part of their overall sustainability strategies for projects development (BBOP Business Roadmap, 2018, p. 7). In relation to project financing, IFC (2012, cited in Bull & Brownlie, 2015, p. 53) indicated that committing to a net gain goal has become a ‘lending requirement’ for companies that plan to proceed with projects which endanger certain habitats. In this regard, some businesses worldwide decided to “*voluntarily work towards BNG strategy and take a positive and proactive approach independently from responding to regulations and loan conditions*” (BBOP Business Roadmap, 2018, p. 7).

When BNG is put one on one with NNL strategy, it is facing a few challenges in its implementation. Not long ago, some confusions surfaced regarding its implementation compared with the NNL strategy (Bull & Brownlie, 2015, p. 53). Some policy-makers believed that BNG is simply an upgraded version of NNL strategy (Bull & Brownlie, 2015, p. 53). Bull and Brownlie (2015, p. 53), themselves looked at this understanding issue, where they researched the insignificance of the “transition from No Net Loss to Net Gain”. They contended that the confusion between both biodiversity strategies was growing larger and involved parties. The government, for instance, believes a changeover from the former to the latter is merely dull, direct and is just a matter of granting higher restoration to the project’s used site (Bull & Brownlie, 2015, p. 53). Within this framework, both researchers strongly argued that such transitioning’s ‘difficulty and feasibility’ should not be underrated (Bull & Brownlie, 2015, p. 57). Mainly, they presented four uncertainties related to why this matter should not be ignored and must instead be explored and explained by future research. Firstly, both strategies hold distinctive perception concerning how policy-makers perceive them (Bull & Brownlie, 2015, pp. 57-58). For what is known, they both can have central dissimilarities in their “*permissible application, specific context and desired outcomes*” (Bull & Brownlie, 2015, p. 57). Hence, for policy-makers, the scope of application, the projected results of either strategy, or the scale required to measure them are still yet to be determined (Bull & Brownlie, 2015, pp. 57-58). Secondly, there exist both theoretical and practical ambiguities about when the transition can or should take place to ensure companies’ ability to continue seizing the ecosystem services (Bull & Brownlie, 2015, p. 57). The third uncertainty, on the other hand, concerns whether the same frame of reference that companies should apply when there is a possibility for a transition from NNL to BNG. Lastly, both researchers debated that such a transition could evoke some response dilemma on the part of stakeholders. In practice, going from NNL to BNG can hold different perceptions regarding the transitions’ expected time and ability to attain the projected goal. Other ambiguities include the anticipated and non-anticipated risks, and the reputational outcomes that follow the companies’ promise to keep this goal (Bull & Brownlie, 2015, pp. 57-58). These open questions make such transition more complex and harder to achieve (Bull & Brownlie, 2015). Hereafter, Bull & Brownlie (2015) are calling for more studies to answer and clarify these uncertainties both theoretically and practically.

To encapsulate, although we have managed to find some definitions theoretically describing BNG concept, no satisfactory information fully answered how companies work with it in practice. This limited our ability, under this chapter, to explore and explain the concept and how net gain can be strived for in business. Notably, no information was spotted in regards with BNG’s stakeholders and implications. In light of this situation, we lean on our empirical findings from the seven interviewed companies to fully answer our three sub-questions.

3. Methodology

Under the third chapter of this study, we elucidate our choices for methodological approach which we employed to assist ourselves in answering the suggested research question. This chapter embarks with a section explaining our rationale in the selection of the topic. A subsequent section follows, in pursuit, to introduce the theoretical methodology and clarify the study's philosophical standpoints. Within the same section, we elaborate on our research approach and the process undertaken in the selection of literature. The third part later proceeds to designate our choices within empirical methodology. At this stage, we further expatiate on our reasons for adopting a qualitative research design and constructing multiple case-studied approach. This also covers a meticulous description of all the steps used to empirically answer the research question from data collection step until the analysis. At last, the final section describes how we dealt with ethical concerns in the completion of the study.

3.1. Selection of Topic

The choice of biodiversity-net-gain topic was driven by various reasons. Although, as researchers, we come from dissimilar master programmes, we both have developed an interest in studying this amalgamation between the fields of business and biodiversity protection strategies. Throughout the combination of “Business development & internationalization” and “Marketing” knowledge, we seized the opportunity to conduct a thorough examination on BNG and attempted to deliver a study of practical value for the present companies in Sweden that seek to be part of BNG initiatives. The first trigger for the choice of our topic was instigated by C. Sjöland as he has been in contact with Anders Enetjärn; a biodiversity expert and counsellor who formed a biodiversity-oriented network of companies in Sweden known as ‘Business and Biodiversity’. He has assisted businesses in overcoming environmental issues in projects’ development (e.g. use of land). This has elicited our initial idea to tackle the topic of BNG.

At later stages, Anders Enetjärn directed our attention towards this network of companies that are voluntarily engaging with biodiversity enhancing activities and aiming for net gain goal. Herein, further discussion with him concerning these companies led us to raise questions regarding their voluntary act to embrace positive environmental impacts in the absence of regulations forcing this decision. Our interest to specifically study the drivers was initially sparked by the thought that net gain goal might be used by companies as a mean to market for themselves. Afterwards, additional readings about BNG’s concept and other the biodiversity strategy (NNL) enabled us to refine and gain more profound knowledge on the prospect topic. Essentially, interesting facts found in annual reports by firms in the industry of infrastructure and agriculture along with other diverse organizations further reinforced our interest to investigate the voluntary drivers behind net gain goal. More specifically, the voluntary motives that encouraged seven companies in Sweden to engage with biodiversity increasing practices and strive to achieve BNG’s goal in the long-term. In similar manner, our choice to focus on this topic was also evoked by our concern to provide other businesses in the same context with relevant and concrete knowledge when also considering joining BNG’s initiatives. In this, the purpose of this thesis is to clarify the clouds on this newly emergent concept and offer other companies a greater knowledge and a clear picture on what to expect when aspiring for such goal. Therefore, we aimed to narrow down our scope to particularly focus on BNG voluntary drivers while also providing a proper understanding of this strategy, its stakeholders along with its implications (opportunities, risks and restrictions).

We reckon environmental concerns, particularly, biodiversity loss as a worthwhile field of research, especially that businesses’ projects and expansion plans are on the rise (United

Nations, 2018). Hence, in the midst of corporate and environment brawl, we perceived BNG as a strategy which drivers are worth investigating, especially that seven companies in Sweden are voluntarily following such goal and working with biodiversity enhancing measures. Briefly, throughout our contact with Anders Enetjärn, we were informed that some current businesses in Sweden are starting to embed biodiversity enhancement as a long-term objective among other goals. They are actively striving to achieve a positive impact on the environment. Hence, our decision to embark from this observation and choose Sweden as a context for the study.

Subsequent to the process of selecting BNG topic, we understand the need of this research to be objectively conducted while maintaining a neutral position towards the strategy. Nevertheless, undertaking a qualitative approach might call-in for interpretivistic standpoints. We are aware of this implication and reckon that our opinions could possibly intertwine with the topic in an unintentional way.

3.2. Theoretical Methodology

3.2.1. Research Philosophy

When embarking upon a research subject, scholars strive to acquire and expand their knowledge. They consciously or unconsciously, probe questions regarding own viewpoints and the nature of realities surrounding them (Easterby-Smith et al., 2012; Saunders et al., 2015). This permits them to develop a sense of scrutiny when identifying what forms an “accepted” knowledge and the extent to which it is required to keep neutrality and objectivity (Saunders et al., 2015, p. 125). Alvesson and Sköldböck (2000, cited in Saunders et al., 2015, p. 125) argued that in process of moulding one’s beliefs and the way of approaching the research, philosophical stances arise. Understanding the different research philosophies results in several benefits for investigators. First, looking at the different existing realities and the extent to which their own assumptions relate to them deepens their knowledge about the research question and enriches the way results are to be interpreted (Saunders et al., 2015, p. 124). In line with this, Easterby-Smith et al. (2012, p. 17) also reasoned that philosophical research is important to aid academics in clarifying their choices of research design and determining the type of evidence needed to answer their interrogations. Researchers are, therefore, able to avoid inadequacies of prior studies, work around others’ limitations and even construct new research design that was not in their knowledge’ radar. (Easterby-Smith et al., 2012, p. 17). Second, the process of searching for own philosophical stances trains researchers to develop analytical thinking and sharpen their sense of reflexivity (Saunders et al., 2015, p. 125). Eventually, scholars with vast view on philosophical assumptions can be able to make adequate methodological choices and deliver more consistent and credible research (Saunders et al., 2015, p. 125).

There are three types of research philosophies: **Ontology**, **epistemology** and **axiology** (Saunders et al., 2015, p. 127). Regarding the first, it is often depicted as the “*assumptions [that] concern the very nature of social entities being investigated*” (Dieronitou, 2014, p. 4). Under other studies, Easterby-Smith et al. (2012, p. 17) presented ontology as more of the way researchers perceive the nature of reality. Herein, in understanding ontology, some differences have ascended. Fundamentally, social scientists debated on whether investigated realities are independent from and external to social actors or they entwine in their construction with the latter and grow from perceptions (Bryman & Bell, 2003 cited in Dieronitou 2014, p. 4). Accordingly, ontological assumptions are divided into two contrasting positions: **Objectivism** and **constructivism**. *Objectivists* regard phenomena to exist in their natural world independently from how researchers perceive them or label them and they can only be experienced from one unchanged angle (Saunders et al., 2015, p. 128). Respectively in business research, objectivists believe it is more reasonable to study phenomena by means of

observations and quantifiable evidence to uncover the truth about them. Thus, they maintain an isolated position during their study process (Saunders et al., 2015, pp. 128-129). In contrast, *constructivists* approach reality in more subjective manner where they reason it develops through the interaction between social actors and the “*constant state of revision*” (Saunders et al., 2015, p. 130). The latter is based on the premise that there is no correct way to perceive phenomenon and thus should always be reviewed (Dieronitou, 2014, p. 7). Therefore, researchers and explored phenomena interlock and become indivisible while the research itself grows to be more subjective (Dieronitou, 2014, p. 7).

Based on this ontological ground, we followed a constructivism position for the two ensuing reasons. First, this study explores the companies’ voluntary drivers behind working towards halting and reversing environmental damages to their projects’ sites. In seeking answers for this matter, our interviewed participants might have different perceptions on the impact of BNG’s goal on companies’ corporate purposes, practices as well as the involved stakeholders. Here, depending on how each participant perceives the strategy and the true motives behind it, we expected to develop different experiences regarding BNG. Therefore, this study captures different realities. Second, working with BNG’s practices is not static but rather progressive, where attaining positive results takes years and could be impacted by the actively engaged stakeholders. In this, apprehending the reality vis-à-vis BNG’s drivers, along with its opportunities, risks and restrictions are prone to change, which makes this research more of preliminary ground for future research to build on it and carry on with such phenomenon. However, for the time being, the progressive nature of BNG’s goal and actions limits this thesis’ ability to look at it from one viewpoint. Essentially, we here believe that BNG is an evolving policy in which stakeholders might be influenced by the context in which it is applied. Further, the interactions with internal and external stakeholders could have a role in the way BNG influences each of the seven companies. In this, stakeholders’ involvement no longer leaves a room for a purely objective study and further emphasises the choice of a constructivist philosophical position in looking at our findings.

On the subject of **epistemology**, this philosophy concerns questions on what makes a valid knowledge and how it is transferred to others (Saunders et al., 2015, p. 127). Similar to the case of ontology, there are two research viewpoints in epistemological philosophy: **positivism** and **interpretivism**. Relating to the former, *positivists* look at realities by relying on “*science model*” (Dieronitou, 2014, p. 5) to produce “*law-like generalisation*” (Saunders et al., 2015, p. 135). A common attribute of positivists’ paradigm is that a research analyses the validity of realities by medium of experimental tests and well-regulated settings, thus comes out as more objective (Dieronitou, 2014, p. 5). On the other hand, *interpretivists* conceived a critical theory against positivism’s position on that phenomena could be reduced to rigid generalities (Saunders et al., 2015, p. 140). Instead, they argued that realities are far too compound and rich, that in their reduction, multiple insights would be lost (Saunders et al., 2015, p. 140). Moreover, interpretivism centres on realities’ richness and complexities, while describing and capturing interpretive understandings from different people’s points of view. In this sense, it emerges as openly subjective (Collis and Hussey, 2014, p. 46).

For this study, we considered interpretivism to be a more fitting scientific paradigm for our research than positivism. Firstly, understanding phenomena under business context entails researchers to look at how a particular phenomenon’s attributes (BNG’s drivers in our case) are perceived by different stakeholders (management, employees, customers, NGOs and locals...) (Saunders et al., 2015, p. 140). In this thesis, this allowed us to gain interpretive understanding of BNG from various experiences. Here, what a community might believe as a driver for a

business to adopt BNG practices might not be the same for the business itself. Secondly, BNG strategy is quite complex policy and its implementation requires the interaction between multiple stakeholders (corporate level, environmentalist staff, employees, regulations, environmental organizations and sometimes creditors). Based on this premise, BNG's voluntary drivers, and its implications (opportunities, risks and restrictions) cannot all be reduced to empirical measurements. Factually, working towards achieving BNG's goal is a complex setting and capturing answers for our questions ensued us to investigate interactions between these stakeholders, which has called for an interpretivistic viewpoint. At large, our research question is more adequately answered through interpretivism as we believe that BNG's knowledge is inherent in the exchange between these seven companies and their context.

The last philosophical standpoint is **axiology** and it concerns the science of values (Bahm, 1993, p. 4). It deals with the *“role that researchers play in all stages of the research process if they wish the research results to be credible”* (Saunders et al., 2012, p. 114). In this regard, social scientists maintain that axiological position (values) is reflected in how researchers go about conducting their study. This covers for instance their choice of topic, research strategy and data collection methods (Saunders et al., 2012, p. 114). In the study of BNG's voluntary drivers, our values are articulated through our willingness to be physically present for our data gathering by medium of interviews. This advocates that we appreciate interaction with participants over collecting answers through surveys or other non-interactive tools. However, what is important to note at this level is that reflecting our values could engender particular subjectivity. We are aware of this matter and consequently, we strive to maintain an objective stance as much as possible through the selection and evaluation of literature as well as conduction of the interviews. However, this does not eliminate the likelihood of partial subjectivity in this study seeing the level of immersion into the topic and with the interviewees' responses.

Research methods

Once philosophical standpoints are delineated, that is, researchers depict the way they look at reality (ontology) and what they believe is known about it (epistemology), a key question arise on how this reality can be captured (Mayer, 2015 cited in Palić et al., p. 55). In this regard, methodology serves as a bridge to link philosophical stances to research strategies (Mayer, 2015 cited in Palić et al., p. 55). There are two types of methods to approach a study, namely **quantitative** and **qualitative**. When dealing with the former, researchers often strive to examine the phenomenon *“by collecting numerical data that are analysed using mathematically based methods (in particular statistics)”* (Aliaga & Gunderson, 2002, cited in Muijis 2004). Qualitative study, on a different note, is more concerned with the *“contextual understanding”* of a phenomenon (Azungah, 2018, p. 383). Precisely, researchers use it to define, assess and compartmentalize the phenomenon as to capture its *“behaviour, values, beliefs”*. What is more, qualitative studies often explore the topic while considering the context where the research is being conducted (Bryman & Bell, 2011, p. 411).

In view of these two research strategies, a list of basic differences was provided by social scientists to help scholars decide upon which one to adopt. A common way to distinguish between both strategies relates to the nature of research approach (deduction and induction) (Saunders et al., 2012). To illustrate, quantitative studies incorporate mathematical methods in data gathering and are often associated with deductive approach in hypotheses' testing. Inversely, qualitative studies aim to produce new theories as they are more submerged in observing and understanding a phenomenon. Their higher level of involvement with participants enables scholars to gain deeper contextual understanding of the phenomenon (Graue, 2015 cited in Palić et al., p. 6) and uncover new knowledge. Hence, social scientists

related them to inductive approach (Gog, 2015 cited in Palić et al., p. 35). Other differences were noted in the sense that quantitative strategy tests the existing theories through the eyes of researchers instead of the participants (case of qualitative studies) (Mayer, 2015, cited in Palić et al., p. 56). Bryman and Bell (2011, p. 410) underlined this point by arguing that researchers do not commonly keep a “*direct contact*” with the examined subjects in order to lower their degree of involvement and thus emphasize research objectivity. In addition, quantitative studies are usually conducted in artificial settings and are, hence, more apt for generalizations.

While these aforementioned differences are central to the differentiation between both strategies, other social scientists maintained that the distinction between quantitative and qualitative research primarily resides in outlining undertaken philosophical stances (Bryman & Bell, 2011, p. 25). Essentially, as quantitative studies are postulated to reflect higher level of neutrality through the use of data quantification methods, an assumption arose depicting that theories, within this type of strategy, “*represent the reality of the problem*”. Hence quantitative studies are often associated with positivism and objectivism (Mayer, 2015, cited in Palić et al., p. 56). Contrarily, qualitative studies are often interrelated with interpretivism and constructivism’s orientations as scholars usually embark from observations about the world. In pursuit, they submerge into the subject and develop representations and interpretations of phenomena in terms of how others see them (Denzin & Lincoln, 2000, pp. 4-5).

Taking notice of the above distinctions, this study followed qualitative research design. This choice was in consonance with our chosen approach for this research and the philosophical standpoints. Bryman (2012, p. 35) discussed how qualitative strategy is regularly used when researchers’ work stresses the way others understand a particular phenomenon. This idea corresponds with what the present study aims to achieve in interviewing the seven companies regarding BNG’s goal in Sweden. In doing so, findings on their voluntary drivers to be derived by means of observations, representations and interpretations and not through variables’ quantification. What is more, qualitative research deals with open research questions, where extra debriefings could arise and be employed causing the process to change in seeking answers. On the contrary, quantitative studies are not flexible and do not dispose of an open-end nature. They, instead, necessitate “standardized” data collection methods (Saunders et., 2012, p. 163) to maintain levels of objectivity. A more noteworthy reason for us to adopt qualitative research is that the examination of BNG’s voluntary drivers took place in the Swedish context. In that endeavour, we conducted semi-structured interviews with seven companies to seek answers. The study was not managed in an artificial setting (case of quantitative research), but rather in a natural, more concrete one. In light of the above perceptions, our study reflects the characteristics of qualitative strategy. This is mirrored in the degree of flexibility needed for our study and the emphasis on the standpoints of our participants. Other characteristics relate to our objective to obtain a deeper understanding about BNG, the use of words instead of variables. and the adoption of a natural setting instead of an artificial one. Eventually, we considered a qualitative study to be a more suitable choice for our research than a quantitative one, and in line with the old saying attributed to Albert Einstein (n.d.), we equally believe that:

“Not everything that can be counted counts, and not everything that counts can be counted” (Palić et al., 2015, p. 56)

3.2.2. Research Approach

Throughout this study, we aim to a deliver a firm grasp of the drivers that encouraged companies to voluntarily consider BNG’s goal in the absence of imposing legislations. More precisely, in an attempt to explore the drivers, our study covered what BNG is, its stakeholders

with an exploration of its expected opportunities, risks and restrictions. With these objectives in mind, the study envisaged adding both theoretical and practical contributions for two categories of audience. On the one hand, the study is undertaking a topic that originates from an entanglement between corporate sustainability and biodiversity fields. Hence, the first category of targeted audience consists of researchers whose interest arises from either or both research areas and who could regard this study as a base for future research. This audience includes researchers who are/will be exclusively working on BNG and/or corporate sustainability fields and wish to expand their research in these areas. On the other hand, the second category of targeted audience includes other businesses in Sweden, authorities, environment's legislators and the locals. Here, the practical contribution is reflected in our endeavour to provide the latter parties with concrete knowledge from existing examples within the Swedish context about voluntary drivers that encouraged seven companies to embrace BNG actions. We also expect to raise awareness of the latter audience about biodiversity loss in the context of business. Throughout this study, we aim to give voice to the unheard groups, who have been enduring biodiversity damages as a result to businesses' expansion plans. We believe our study can encourage more parties to get involved with biodiversity concern and engage with enhancing actions. As Ragin (1994, p. 83) has long debated, we believe that calling for people's attention and support towards the matter of environment's protection should be the objective of every social researcher.

By connecting our study's problem and research gaps seen in earlier sections (see chapter 1, sections 1.1 and 1.2), we acknowledge that the existing BNG literature has not addressed the strategy from a comprehensive approach. Factually, no other study has tackled the topic and delivered both theoretical and practical contributions yet. In line with this, most literature that focuses on BNG's topic does not come from academic institution, but rather from companies' annual reports and institutes' publications. Also, a fragile line of argumentation engrossed BNG, where net gain goal simply appeared as an extension/comparison to NNL. Thus, a lack of deep understanding of BNG both theoretically and practically was noted. Furthermore, the level of hypothesising under this topic is either weak or missing. Therefore, we recognized the need to embrace a research approach that embarks from present observations and also links existing theories to expand and add new knowledge blocks to the topic (Saunders et al., 2012, p. 171). To gain both theoretical and applicable insights on the topic, it was important that this study's core focus is on the voluntary drivers that stimulated businesses in Sweden to espouse BNG's goal. Here, it is important to indicate that the focus on what BNG is, who the main stakeholders are, and the implications are not the central research idea of this thesis. They are rather a tool to help us grasp the weight of BNG in business and better understand the voluntary drivers towards achieving it. As mentioned in the theoretical chapter, we use an updated version of Schaltegger et al. (2012)'s model to explore the drivers and eventually explain the voluntary behaviour of the companies towards net gain. In general, we want to offer a holistic understanding of BNG's concept as it is novel and lacks insights on so many levels.

Now, having positioned the audience in the context of research design selection, we believe both inductive and deductive styles are required to fully answer the proposed research question. To illustrate, **induction** is often implemented when researchers board from a set of concrete observations regarding a phenomenon, where they initially hold a conceptual understanding about it (Miles & Huberman, 1994, p.17). This was true for our case as we instigated this study based on an observation regarding seven companies that are voluntarily striving to attain BNG. Still, such observation was not satisfactory to comprehend the scope and complexity of BNG voluntary drivers, and thus we had to work our way from the "*empirical level*" to eventually 'house' a theoretical model (De Vaus, 2001, p. 5). However, using induction only ensues that

we chiefly rely on the given empirical data and observations to detect patterns and generate theoretical findings (Saunders et al., 2015, p. 145). From this perspective, we would be able to benefit from the existing theoretical contributions generated by previous studies (e.g. corporate sustainability models). Still, solely applying induction in BNG's research might not lead to valid findings since the concept itself is newly emergent and still in an embryotic research area. Therefore, the need to rely on previous models from other similar streams is crucial to gain new insights on it and equally opens doors for future research. Contrarily, **deductive** reasoning entails that we start from preliminary hypotheses and use data and existing propositions to verify a theory rather than build a new one (Saunders et al., 2015, p. 145). Likewise, deductive style often results in a passage from the 'general' (conceptual level) to the 'particular' (empirical level), which guides scholars in making deductions (De Vaus, 2001, p. 6). In our BNG's investigation, following this deductive line helps the study profit from previous related BNG knowledge (corporate sustainability and natural capitalism) and directs us in our theoretical understanding of the subject. A purely deductive style, nevertheless, might not have been sufficient as it could restrict mainly us to the adopted rationale since it is more about testing than adding knowledge (De Vaus, 2001, p. 6).

In summary, hinging on one single research approach (either inductive or deductive) might not be the most appropriate decision for the sake of our study. For one, our interest in focusing on BNG's drivers initially started with a specific observation regarding the reasons why some companies in Sweden are voluntarily working towards net gain in the absolute absence of legislations. Herein, the departure from such observation and the attempt to use an updated theoretical model could call-in for inductive style. Nevertheless, a purely inductive approach cannot be solely adequate as we need to look at other corporate sustainability models and previous theories as **inputs** for our research. Contrariwise, a solely deductive style cannot enable us to make additions to the topic of BNG's drivers and is rather used when remaining within the borders of the theories from previous research. In our case, this is not possible seeing the scarce literature and novel topic of BNG. In addition, solely adopting deductive style does not help us answer the purpose of our study.

Going over same ground, some social scientists have underpinned that combining both research approaches ascends as **abductive** style (Saunders et al., 2015, p. 148). Herein, to be wary of the research approach choice, we looked at the rationale behind abduction. Principally, abductive style instigates with phenomenon observations and then guides academics to determine how it came to exist and identify potential patterns (Saunders et al., 2015, p. 145). In this connection, it relies on the existing theoretical findings as inputs (induction) for our study and collects empirical data to eventually verify and unravel further observations (deduction) (Saunders et al., 2015, p. 145; Mitchell, 2018, p. 105). Nonetheless, albeit the similarities, abductive approach cannot be positioned here as simply the combination of both inductive and deductive styles since it comes as a dissimilar approach with its own logic and characteristics (Mitchell, 2018, p. 107). In this study, we reckon that abduction could limit and cloud the independent characteristics of each of the induction and deduction styles and might even drift them away from the needed logic to answer our research question.

As illustrated before, we commenced with an observation regarding the reasons why Swedish companies are voluntarily aiming to achieve a net gain goal while there are no legislations to pressurise the act. In this premise, we acknowledged the low level of theorizing in BNG's stream and consequently relied on previous findings from similar line of thinking, dominantly the model by Schaltegger et al. (2012). In contemplation to answer our research question, we collected secondary and primary data and formed multiple case-studies on Swedish companies

as to determine what the voluntary drivers are. Admittedly, the use of abduction can block us from swinging back and forth between induction and deduction whenever needed. Additionally, inductive style serves to capture *why* a phenomenon is happening while deductive looks at *what* it is happening (Saunders et al., 2015, p. 145). In this, choosing these two approaches separately does not only match our research's purpose to understand *what* BNG strategy is and the drivers for (*why*), but equally permits us to progress around this topic in more supple manner.

3.2.3. Literature Selection

Literature review ascends among the most recurrent sections in academic writings and scholars' research studies (Turner, 2018, p. 118). In an attempt to investigate the guidelines and contributions of this form of research, Torraco (2005) maintained that literature review serves to introduce the audience to studies' groundwork and permits them to deepen their knowledge about the subject. Boote and Beile (2005, p. 4) also investigated topic of literature review and defined it as the "*context of the study...[that] clearly demarcates what is and what is not within the scope of the investigation and justifies those decisions*". Herein, we took note of this perspective in the selection of our theoretical material attempted to follow the three roles of literature review by Hart (1999). First, a pertinent selection of literature is expected to assist researchers in finding suitable methodologies. This is expected to frame and guide readers throughout the study. Second, a sound and well-structured literature keeps scholars from falling in prior studies' inadequacies and helps them stay aligned with the research question and purpose. Lastly, an apt literature review equally enables researchers to detect hidden research gaps that cannot otherwise be identified without digging into the subject's relevant concepts and theories (Hart, 1999, cited in Machado & Woestenburg 2018).

Regarding our study's literature review, the selected materials were accessed from various databases. Here, in search of pertinent journals, articles and books, we relied on a set of key-terms in relation with the study's topic: biodiversity-net-gain. To illustrate, the list of the most frequently used key-words included:

Biodiversity net gain, biodiversity, biodiversity loss, biodiversity compensation, net gain, ecosystem services, corporate sustainability strategy, business case for/of sustainability, biodiversity strategies, mitigation hierarchy and no net loss.

Some of these terms were replaced by synonyms to avoid repetition. For instance, net gain was often used as a synonym for BNG's goal. We also used 'environment' and 'ecosystem' to substitute the term 'biodiversity'. Similarly, the term 'ecosystem services' was often referred to as 'ecological benefits' and 'ecological goods'. Under other sections, BNG was designated as 'biodiversity strategy' or biodiversity enhancing activities, whereas its goal was sometimes replaced with 'positive impact'. Fundamentally, the literature review chapter was written based on materials from databases such as Umeå University Library, Wiley Online Library, Google Scholar. These sources were adjoined by a number of academic publishers of scholastic e-journals and books such as Science Direct, Elsevier, Research-Gate and Emerald Insight. Likewise, to extract more literature with respect to our topic and key-words, we have examined the reference lists of the found academic articles.

Moreover, what we have noticed in the realization of this study is perhaps the heavy presence of scientific ecological concepts. While we tried to undertake the topic from a business perspective, we could not ignore the fact that the topic arises from the scientific field of biodiversity. Basically, the entanglement between biodiversity loss and business development is not new and dates back to the 1960-1970's (Baggethun et al., 2010) as we saw earlier in

literature review chapter. However, the concept of BNG is newly-emergent and its implementation is still at early stages. Hence, no results have been registered yet (Homfray & Butterworth, 2016, p. 5) which restricted the number of academic articles vis-à-vis BNG. In this regard, the scarce presence of academic articles required us to equally use companies' annual reports and review publications by environmental institutes such as BBOP, DEFRA, IUCN and WEF. This allowed us to take a good grasp of how BNG strategy is practically implemented in companies and what its initial implications are so far. With respect to websites, quite few were employed throughout this study. Under the chapter of secondary data collection, some relevant information about our participant companies were taken from both their official web pages and other unofficial web-sites. Here, for pledged ethical purposes, we cannot name these websites used since they reveal the identity of the companies that we promised to keep anonymous. For the rest of the chapters (e.g. theoretical chapter), some organizations' websites were used. To name few, we employed 'Forest Trends', 'BBOP', 'TEEB', 'World Economic Forum' and 'The Biodiversity Consultancy Ltd'...etc to help us understand certain phenomena and better explain them in our thesis.

Finally, we understand that some of these sources, particularly, websites and companies' publications, could be biased and might echo certain inclinations towards the adoption of BNG. Nevertheless, answering the suggested research question dictates us to retain a neutral position and objectively capture and explain the companies' voluntary drivers.

3.3. Practical Methodology

3.3.1. Research Design

Answering research questions and/or testing proposed theories are often considered as the highest objectives in a scholar's work Dulock (1993, p.154). In doing so, Akhtar (2016, p. 68) reasoned that research design serves as the tool to structure researchers' plan and guide them through the practical execution of the study. Going under earlier studies, Zikmund (1988, p. 41) explored business research methods and defined research design as the "master plan specifying the methods and procedure for collecting and analysing the needed information". Manheim (1977, p. 140), on the other hand, delved further into the philosophical dimension of research design and argued that the latter is more than mere methods to seemingly structure scholars' work. He rather maintained that research design plays a role in illuminating the audience about scholars' logic in their choice of methodological decisions for their research. In this respect, philosophical standpoints can be reflected at the level of research design. More specifically, Bryman and Bell (2003) debated that epistemological and ontological stances cannot be conveyed in isolation from the possible concerns that can rise during studies' execution. With these perceptions in mind, this study adjusts research design section to outline and justify our choices of research purpose, strategy and data-collection methods.

Research Purpose

At large, there are three kinds of research purposes: descriptive, explanatory and exploratory. In this sense, scholars' selection of the appropriate type of research purpose connects with the nature of research question at hand and the sort of conclusions they anticipate the research to bring about (Saunders et al., 2009, p. 139). Against this background, Robson (2002) and Saunders et al. (2009) reasoned that a given study might compel researchers to employ more than a single research purpose. Thus, a variation of the latter could be spotted in alternation during the research and depending on the research question prerequisites.

Digging into these three types of research purposes, descriptive studies are commonly used when researchers aim to describe the precision of existing issues relating to “individuals, events or situations” (Robson, 2002, p. 59). In this, descriptive studies can be considered as expansions of previously conducted research, where investigators are ought to dispose of a clear and comprehensive background on topic at hand (Saunders et al., 2009, p. 140). Additionally, scholars within business research should bear in mind that the findings under descriptive studies should not be considered as end results but rather as a foundation to explain the phenomenon to be studied. Hence, the existence of hybrid studies combining different forms of research purpose such as in the case of “descripto-explanatory” research (Saunders et al., 2009, p. 140).

On the other hand, explanatory studies are often applied under quantitative research strategy, where the main focus is to set causal connections between studied variables (Saunders et al., 2009, 2012). This was in consistence with what Akhtar (2016) and Mayer (2015) maintained regarding explanatory studies. both academics explained how identification of causal relationships between variables while explicating them can help “gain more familiarity” with the field and lay foundations for further detailed future research.

Lastly, exploratory studies are most suitable for studies that address lightly-researched areas or that cast new lights on the to-be-studied “phenomenon” (Saunders et al., 2009, p. 139; 2012, p. 171). Correspondingly, if a researcher is instigating an umbrageous problem or the study’s main purpose is to deliver a better understanding of the topic itself, then exploratory studies are the way to go (Saunders et al., 2009, p. 139). What distinguishes exploratory research purpose from the other two is that it permits more flexibility while conducting the study. This allows scholars to adjust their research direction as new insights surface. Here, Adams and Schvanevelt (1991) in this context argued that while this extra flexibility does not insinuate a lack of structure, it conversely reflects researchers’ gradual passage from an expansive focus to a confined one.

In light of these descriptions of different research purposes, our study opted for an exploratory research. This decision is justified by various drivers. on the one hand, our purpose in this study is to clarify BNG phenomenon and obtain new insights about its voluntary drivers of aiming to halt and reverse biodiversity loss. On the other hand, throughout the length of the study, we followed a progressive slant where we passed from looking at BNG globally to narrowing down our focus on it. More precisely, we progressed from a global exploration of BNG phenomenon in terms of what it theoretically and practically means, its stakeholders’ involvement and implications. Later, we narrowed our focus on the exhaustive matter of the voluntary drivers behind it. In general, BNG’s subject, specifically its drivers, are in need for uncovering new and enriching knowledge. This, nevertheless, can neither be attained by determining correlations between variables (case of explanatory research) nor by describing BNG with the scarce prevailing information (case of descriptive research). All the above drivers underline exploratory study as the most appropriate choice for the study at hand.

3.3.2. Research Strategy

In this last part of our practical methodology, we documented the chosen empirical methods on how we conducted the study. We described the techniques we used for data collection and how we practically proceeded to answer our research question. The initial part delineated secondary data collection regarding the chosen context: companies in Sweden. Herein, the purpose is to provide an overview on the selected businesses in order to help, not only ourselves, but also the readers, understand companies’ background and explain primary data at later stages. Fundamentally, gathering secondary data at this stage aided us in gaining insights on the context that motivated these companies to voluntarily engage with biodiversity enhancing actions and strive towards net gain. The second part of our practical methodology designated how primary

data was collected following a multiple case-studies design and leaning upon semi-structured interviews. In view of the wide-ranging choices of research strategies, we had to discard few of them and choose multiple case-studies for particular reasons. First, in understanding a phenomenon, grounded theory purely uses an inductive approach (El Hussein et al., 2014) which was not suitable for this study as we needed an alternation between both inductive and deductive reasoning to answer the research question. Secondly, grounded theory is rather a social science theory (Mjøset, 2005) oriented towards contextually explaining phenomena (Lawrence & Tar, 2013, p. 35). This opposes the objective of our study to provide and explain an objective description of BNG's drivers under probable terms of causality (Lawrence & Tar, 2013, p. 35). We believe that multiple case-studies allowed us to separately examine each case and then compare data to reveal the drivers delineating these businesses' choice towards BNG in the long run. As for the option of survey, we also casted-off such choice as we believe that it is largely more fitting for quantitative studies (Mathers et al., 2007, p. 4), thus cannot be fit for our qualitative research. In summary, we dedicated the subsequent section to outline our decision to adopt multiple case-studies design for BNG's topic and describes how both secondary and primary data were gathered and processed to reach conclusions.

Multiple Case-Studies' design

In the purpose of identifying the drivers behind voluntarily working with BNG practices, we decided to choose multiple case-studies design. Such decision is rooted in two main reasons. To start with, this research has initially hailed from an observation relating to seven companies in Sweden which voluntarily began to work with biodiversity-oriented strategy. This observation was interesting for us as companies in different countries like UK (Homfray & Butterworth, 2012), the government is mostly the trigger. Additionally, such observation was accompanied by a scarce academic coverage of BNG in general and the drivers in more specific way. Consequently, we saw the need to undertake a profound investigation on this policy. Against this background, we opted for a case study design since we believed it is the "*proven tool for achieving a deep understanding of a specific phenomenon...for example behaviour of a particular user group*" (Zach, 2006, p. 4). Secondly, this study aims to add practical knowledge to the field of BNG. In doing so, we compare different cases of companies in Sweden which are actively and voluntarily working to achieve a net positive. However, since a comparison in this stream (regarding voluntary drivers) has never been attempted beforehand and an identification of BNG drivers has not yet been explored. We, consequently, saw that case study is the most appropriate design to unveil concrete insights on how working with BNG could benefit similar businesses and encourage other more to adopt it.

In essence, a case study design is defined as "*an empirical inquiry that investigates contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used*" (Yin, 1984, cited in Zainal 2007, p. 2). The use of case study method permits us to go beyond numerical findings to instead cast light on the "*behavioural conditions*" through performer's standpoint (Zainal, 2007, p. 1). This idea was equally emphasized by Tellis (1997) who debated that case study in qualitative research strives to explain a phenomenon and its outcomes through observation, re-creation and examination of chosen cases. In general, within case study design, one can distinguish between single case and multiple-case application (Tellis, 1997, p. 2). Researchers often utilize the former when they deeply engage with a sensitive phenomenon and conduct an extensive analysis on a single unit of it (Baxter & Jack, 2008, pp. 549-550). This follows that findings are highly subjective and hence, it is harder to generalize and apply them on larger population (Baxter & Jack, 2008, pp. 549-550). With respect to multiple case-studies, Yin (2003) has defined the design as an enabler to:

“Investigate the differences within and between cases. The goal is to replicate findings across cases. Because comparisons will be drawn, it is imperative that the cases are carefully chosen so that the researcher can predict similar results across cases, or predict contrasting results based on a theory” (Baxter & Jack, 2008, p. 548).

Tellis (1997, p. 4), on the other hand, discussed how multiple case-studies reinforce the findings by *“replicating the pattern”*, thus underlining the robustness of the theoretical model used. For our BNG study, we chose to follow a multiple case-studies design. Such decision was embedded in the fact that it allows us to *“analyse within each setting and across each setting”* (Baxter & Jack, 2008, p. 550). It also helps us understand every company’s own drivers behind striving towards net gain and how these motivations differ or match among companies when we change sub-contexts (e.g. industry). The use of multiple case-studies design delivers a number of diverse and concrete experiences on investigated phenomenon (Zach, 2006, p. 9). Thus, it *“ensures that the issue is not explored through one lens, but rather a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood”* (Baxter & Jack, 2008, p. 544). Furthermore, Flyvbjerg (2006, p. 2) pointed out that case study design is best suited for *“pilot”* research field with new fledged studies. In this, BNG is indeed a newly emergent strategy. In view of all the given reasons, we perceived a multiple case-studies as the most fitting method to examine different cases of the seven companies and compare their drivers’ similarities and differences to unlock new knowledge about BNG’s topic.

What is important to retain, at this stage, is that by comparing and linking the relevant information from each chosen case, multiple case-studies design enriches and supports the findings (Zach, 2006, p. 11). It helps in strengthening the odds for generalizations. However, the use of such method is laborious and entails a thorough approach for data collection. Hence, we decided to lean upon the framework established by Yin (1994) and edited by Mack and Pützschel (2014) (see figure 5) as to explain how we went about our method in this study.

Stage 1: Define and Design

a. Select cases

In the selection of multiple case studies, Yin (1994, cited in Zach, 2006, p. 9) argued that scholars should take notice of *“replication”* logic. The latter is described as the application used in selecting relevant cases for a research to identify certain patterns of behaviour and reveal similar and/or opposing premises. One can distinguish between two stages of replication: *‘literal’* and *‘theoretical’* (Zach, 2006, p. 9). Within the first, researchers selected cases to mainly explore the similarities between the studied subjects. Throughout the second stage, further cases are added to *“confirm or disprove the patterns identified in the initial cases”*. Following this logic, Eisenhardt (1989) debated that the more similar findings the chosen case studies mirror, the more robustness the used model will claim. When it comes to our study, we were initially willing to embed replication logic and adopt as many case studies as required within both replication stages to reach saturation. Nevertheless, we were not able to abundantly reflect replication. This is rooted in the restricted number of companies working embracing BNG’s goal in Sweden, and to which we had to abide-by in order to explore net gain’s voluntary drivers. Additionally, this thesis recognizes that previous examinations did not attempt to identify the voluntary drivers, before, specifically in Sweden. In general, we were not able to anticipate if these seven businesses in Sweden reflect similar or different drivers. Therefore, in order to be able to carry on with this topic, we considered specific practicalities such as availability and number of prospect companies, which have delimited our full embeddedness of replication logic.

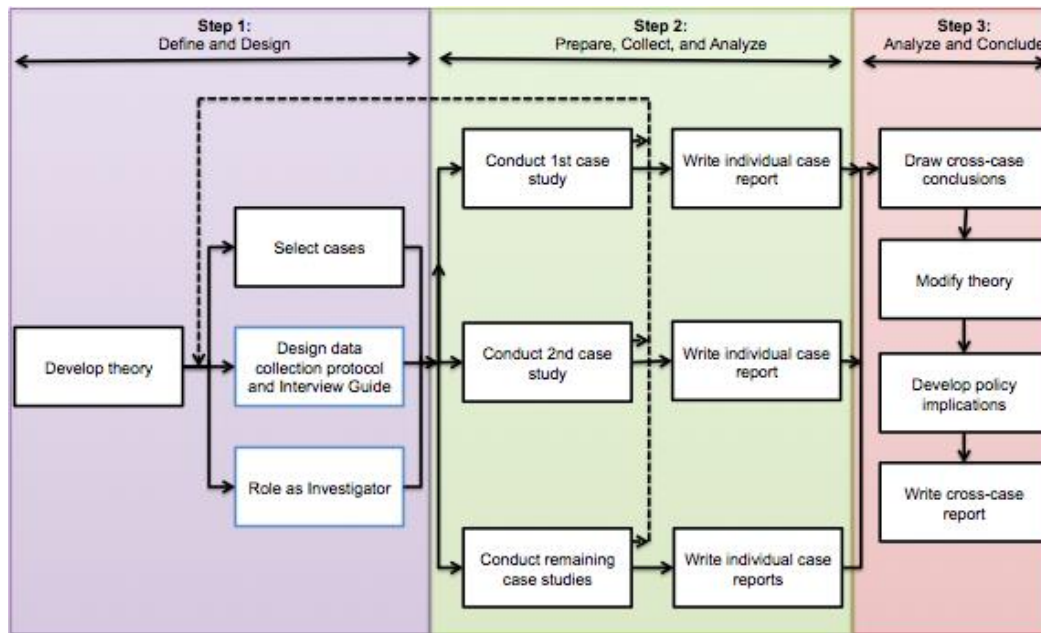


Figure 5. Edited Multiple Case Study Design of Yin (2009, cited in Mack and Pützschel (2014, p. 45)

Regarding the number of cases required to achieve a satisfactory research within the example of multiple case-studies design, Yin (1994, p. 46) proposed a range of six to ten cases. This was elaborated on by further argumentations which maintained that multiple case-studies design is dissimilar to survey studies and does not rely on “representative sampling logic” (Yin, 1994, p. 46). Therefore, to reflect such “representative sampling logic”, another substitute is employed for multiple case-studies which is data saturation. It means that we must continue on adding cases until no pertinent information is provided (Zach, 2006, p. 9). Relating this to our BNG study, we selected the most ambitious seven companies in terms of their voluntary work with BNG’s goal in Sweden (Enetjärn, 2018). The goal here was to incorporate each one of them as to determine all possible drivers and eventually explain their behaviour in doing it. This would allow us to form an adequate data-base for future research. Likewise, we believe that detecting patterns and being able to reach conclusions, especially that the chosen firms come from various industries, is far more vital to answering the research question than incorporating a high number of cases (Saunders et al. 2012, p. 283). Gustafsson (2017, p. 9) reasoned under similar thoughts that examining a high number of cases engenders lower level of focus on the details and “*less observation time*” on each one of them. This, hence, could make the study less “*representative*”.

In the process of BNG’s data collection and taking into account previous relevant points, we interviewed seven companies that are actively working towards halting and reversing environmental degradation in Sweden (Enetjärn, 2018). It is important to note here that one company (later assigned as company B) is a Finnish company that is equally operating in Sweden. Currently, the business is implementing biodiversity strategy that aims to counteract its negative impact on the Swedish environment. Therefore, we decided to consider it as one of the companies as to examine their voluntary drivers and equally expand our data base. Essentially, the decision to investigate this network of seven firms, which is called “Business and Biodiversity”, was based on a recommendation by its founder Anders Enetjärn. As illustrated in prior sections (see section 3.1 Selection of Topic), Anders has played a pivotal part in our choice of BNG subject, where during the first and second meeting with him, he managed to enlighten us on this topic. Likewise, being amongst BNG leading experts in

Sweden, he managed to guide us towards a proper choice of the companies that are actively attempting to achieve environmental positive gain. From this, our choice of businesses for the multiple case-studies design and interviews has been decided.

One could argue against our choice of not investigating other businesses in Sweden that are not following BNG strategy. Whereof it could be interesting to interview other firms as to explore the reasons why they are not attempting to contribute to biodiversity, we believe this idea does not line-up with our study's purpose. First, we are specifically interested in explicating an observation about BNG strategy within the Swedish context. Second, looking at why companies are not attempting to achieve an environmental positive impact does not answer our purpose to identify the voluntary drivers that are actively encouraging the seven companies to actively contribute to the environment. Third, the other businesses might not even be accustomed with biodiversity strategies yet, and this does not aid us to answer our research question. Therefore, we decided to solely interview the seven companies under the Swedish biodiversity network as we reason they form the most suitable setting to examine BNG's voluntary drivers. An additional belief to consider here is one by Bryman (2012, p. 417), who underpinned that the personnel choice of case-studies might have an impact on qualitative researches. In consonance with this, we acknowledged the latter perspective and conceded to the likelihood that our personal choice of case-studies might produce certain subjectivity. Therefore, we strived to keep a neutral position during the conduction of the interviews and the analysis of the cases.

With respect to data collection by medium of semi-structured interviews, we were not previously acquainted with the companies before the interviews took place. In order to gain contact with our prospect participants, an email template (see appendix 6) was created and used. Additionally, a request letter (see appendix 7) provided by our supervisor "Zsuzsanna Vincze" adjoined every email to validate study's authenticity and authorise interview's request. Once companies have accepted the interviews' request, we communicated with them to frame and enlighten them about the conducted study and its purpose. Equally, we took this opportunity to schedule with them a suitable time for the interview. In doing so, we have suggested our willingness to travel across Sweden in order to be physically present and interactive during the interrogations. In this regard, two companies agreed to this proposition. Due to our short time and sometimes the inability to schedule a suitable date for both parties, we could not settle for a one-on-one meeting. Instead, skype interviews were suggested to take place on the agreed dates. Likewise, we took this first occasion to inquire about the possibility of recording the interviews and check for participants' preferences regarding their identities' anonymity. The reason we do this is to make sure that they are alert of their choices to be part of the interviews and what follows that. What was interesting for us at this level, is that one participant company (later assigned as company G) has expressed its concern to stay anonymous in our report. The rest, however, were okay with revealing their information. In such situation, we immediately assured company G about the secrecy and anonymity of its identity and participants' recordings during the interview and after the finalization of the thesis. We respected company G's wishes and we did not disclose any data that could trace back to its identity. What is more, when it came to the other six participant companies, we also decided to seal their identities for convenience purposes. Still, we provided more anonymised information about them than compared with company G.

b. Design Data Collection Protocol and the Interview Guide

For the purpose of assembling data, we designed a **data collection protocol**. Typically, it can be depicted as the plan for the different procedures to be respected in order to control and pilot the process of data collection and recording (NPC Research, n.d.). Using protocols can be

beneficial when constructing a multiple case-studies research (Brereton et al., 2008). Essentially, it structures step by step how we go about asking participants to assemble needed data. In doing so, any inconveniences that arise, possibly impacting the construction of our case studies and the process of data collection, become easier to deal with as rapid adjustments could be made following the protocol's rules and guide (Brereton et al., 2008, p. 5). Likewise, the protocol also serves as a template to constantly evaluate the "*rigour of case studies*" and generally the quality of data collection process. It is rather an "*opportunistic*" tool rather than a set of strict rules. It aids researchers in evolving throughout the process of data collection by check-listing key points and keeping sight on the big picture (Brereton et al., 2008, p. 5). Jacob and Furgerson (2012, p. 5) reasoned that such opportunistic nature permits academics to include any further interesting question that pop-up in the midst of data collection. This is known as the "*emergent design*" which is according to Creswell (2007, cited in Jacob & Furgerson 2012, p. 5) the "*hallmark of qualitative research*". When it comes to its content, a data collection protocol often incorporates an "*overview of the case study project including objectives, issues and relevant findings about the topic being investigated*" (Brereton et al., 2008, p. 3).

For our BNG multiple case-studies, we designed an equitable protocol. Still, due to time constraints, our main focus was on describing the steps followed, which served as reminder of the information that need to be next-assembled. It also allowed us a smooth transition between topics and eventually answer our research question. In addition, the protocol also emphasized the interviews' questions. The latter were structured to be asked according to a specific order (from general to specific) while delineating the purpose behind each one of them. Yin (2009, cited in Mack & Pützschel, 2014, p. 48) maintained that interviews' questions usually vary from the ones selected in the designed protocol. Nevertheless, in this study, it is important to gloss that our questions outlined in the data collection protocol were the same as the ones used for the interview guide (see appendix 8). The decision to do so was rather due to both time and space restrictions in our thesis.

Regarding the **interview guide**, we attempted to design semi-structured questions as to encourage the participants to further engage with the topic and reveal more insights in their answers (Bowling, 2005, p. 286). The choice of semi-structured interviews was embedded in the belief that they provide in-depth responses and thus, encapsulate more systematic data more efficiently (Jamshed, 2014, p. 87). This rhymes with what we aimed to achieve. Biodiversity strategies is quite a profound subject and in order to answer our research question, in-depth questions are needed. Also, seeing that BNG's field of research is still "*uncharted*", where not much knowledge is gained, the decision to employ semi-structured interviews permitted us to ask open questions. The latter helped reveal "*maximum latitude*" about the topic and "*spotted useful*" issues to follow (Adams cited in Newcomer et al., 2015, p. 494). When it comes to the style of questions asked, we prepared a set of defined and well-thought open questions. This has granted participants more freedom to expand on their answers which was expected to increase the trustworthiness of this research (Campbell et al., 2013, p. 297)

In structuring the questions, we decided to respect the order depicted in the protocol; that is, going from general open questions to more specific as we dug deeper in the stream of the voluntary drivers. More importantly, we attempted to follow how the theoretical chapter was structured. First, we instigated the interview with a short update about ourselves as master researching students and mostly about the study at hand. This included presenting our study's objectives and answering any lingering questions from the participants in this regard. In pursuit, we commenced with biodiversity related questions, through which we aimed to establish an overall understanding on biodiversity. We inquired participants about their understanding of

biodiversity strategies and when/how the latter became implemented in their work. In this part, our aim was to determine the chosen strategy (NNL/BNG).

After conversing about biodiversity questions, we moved to discuss the companies' voluntary drivers. In this process, we have prepared the checklist of drivers based on the model of Schaltegger et al. (2012) and CSR approaches. We used this list to check with participants on what their voluntary motivations are. The drivers' list consisted in whether our participants had motivations relating to; costs and cost reduction risk and risk reduction, sales and profits, embellishing reputation, attracting a better pool of employees and reflecting attractive employers' image, innovation capability, aligning with stakeholders' expectations, reflecting personal values of management. Because of space limitation, we disclose better explanation of these drivers under our data collection protocol and interview guide (see appendix 8). Afterwards, we progressed to further questions by inquiring about the implications of voluntarily working with biodiversity increasing practices. This included asking the participants about the possible results (negative and positive) in working towards achieving a positive environmental impact. The purpose here was to discover the current benefits and/or potential opportunities as well as any faced restrictions or conceivable risks. Thereafter, by delineating the latter points, we aspired to remove ambiguity and project a more concrete and comprehensive picture of biodiversity and BNG for the uninvolved or future companies to embrace it.

As previously illustrated, data collection within qualitative research often stems in an emergent design (Jacob & Furgerson 2012, p. 5). Following this line of thought, we made sure to take note of every interesting question or thought triggered in the process of data collection. Doing so made it easier for us to review the current interview questions and include the new ones. Likewise, we sensed some participants' reluctance (Company G) in answering certain questions. Accordingly, we took note of such issue and made sure to instigate each interview with a reminder about the information secrecy and anonymity. In the process of interviewing the given companies, our main objective as investigators was to be able to extract as much data as possible in order to expand on the subject of BNG, explore voluntary drivers behind striving towards net gain and open doors for future research to build on this knowledge. Linking this to the 'Role of Investigators', Chenail (2011) discussed how a skilful investigator holds a great influence on the quality of the research. Factually, experienced investigator often makes sure to administer the right questions while "*discarding*" any blurred and unnecessary ones (Chenail, 2011, pp. 257-260). Further, the same author maintained that a qualified investigator is also ought to avoid making pre-assumptions regarding the participants and makes sure to remain unbiased of subjective standpoints. In light of the latter points, we attempted to abide by these characteristics during the interviewing process. Even though, these skills might not be fully overt in this research, the designed protocol served as a guide to uphold a good quality of data collection procedure and the study in general.

Stage 2: Prepare, Collect and Analyse

Under this stage, we began collecting and analysing cases for the highlighted companies in the previous section. As the edited model by Yin (2009) showed above, each case was treated separately from the other. The point in that was to amass as much relevant data as possible to allow for adequate comparisons later on. What we aimed to gather was rather information regarding the background of companies such as their industry, size, state of ownership, revenue and their previous and future environmental (sustainable) achievements. Given that this research leaned upon semi-structured interviews for the data collection, this helped us set the initial reconnaissance with companies' perceptions on their goal to realize positive impacts on

the environment. Furthermore, the open characteristic of semi-structured interviews questions allowed to profoundly grasp the “independent thoughts” of each of the participants concerning their intentions and reasons in striving towards their goals (Newcomer et al., 2015, p. 494). This is also emphasized by the second feature of semi-structured interviews which is flexibility. Herein, the flexibility attribute “*makes them [semi-structured interviews] well-suited to answering a why question*” (Miles & Gilbert, 2005, p. 66). This is precisely what we are endeavouring to answer throughout our research question. As we are searching for the drivers behind the companies’ voluntary behaviour, we are trying to answer ‘why’ they are doing it. By the same token, as the ‘why’ question was being resolved, more personal insights were gained on biodiversity strategies. This has helped us encourage participants to reveal more about their voluntary drivers and deliver thorough and concrete explanations to enlighten other businesses in this regard.

What is more, this study is built on an exploratory research purpose. Initially, our main objective is to find answers to our research question, which has embarked from a real-life observation about Swedish companies. Yet, in the process of fetching answers on the voluntary drivers, we attempted to pursue other concerns such as the implications of biodiversity enhancing measures. In view of this, the open structure of semi-structured interviews was a suitable fit for this type of study and permitted us to also investigate parallel concerns and smoothly explore further facts such as the results of the adopted strategy (Jarratt, 1996, p. 9).

What is of interest during the process of data assembly is that we came across the commonly known six sources for evidence collection suggested by Yin (2009) (Anderson et al., 1998, p. 63). The same authors have argued that the latter are specifically used to study multiple case-studies and enlisted them as follow; “*documentation, archival records, interviews, direct observations, participant observations and physical artefacts*” (Anderson et al., 1998, p. 63). Our study mainly relied on interviews, documentation and participants’ observation to gather pertinent information. This choice was entrenched in the fact that time and space restrictions for this thesis, precisely the data collection duration did not allow us to extend data collection process and incorporate all the above techniques. Therefore, we primarily discarded the option to utilize ‘direct observations’ since it is time consuming. In like manner, data concerning BNG’s topic itself was not as academically thorough as expected. Therefore, ‘archival records’ related to BNG experience were not available or exhaustive under this frame. With regard to explicit ‘physical artefacts’, the latter cannot be provided as BNG is a long-term goal and so far, there have been little physical evidence to whether it has been successfully attained worldwide or if it can be in the future (Homfray & Butterworth, 2012, p. 25). This has left us with three techniques to rest-on. Starting with ‘documentation’, we mostly relied on the official websites of the seven participant companies to probe information regarding their background along with other related e-forums. During the ‘interviews’, additional information was gathered. As for the ‘participant’s observations’, we were to some extent “*participants’ observers*”. By that we mean that we enlisted anecdotal notes about our interviewees’ activities to help reveal their reactions when explaining their companies’ practices and drivers behind BNG’s goal (Kawulich, 2005). Taking into consideration these three techniques to collect data, we attempted to mirror a form of triangulation. The latter has been depicted not only as a tool to increase the validity of qualitative studies through the use of varied tools but also to maximize any potential knowledge (Bryman, 2012, p. 392).

Relating to how the interviews were conducted, we were physically present for two meetings. Still, due to our limited time and participants’ demanding schedule, we were not able to have a one-on-one interview. Thus, skype meetings were arranged instead. Reaching back to earlier

sections (see role of investigators), we are not interview experts. However, the protocol for data collection along the skills depicted in the former parts guided us through this process. Herein, we strived to maintain a neutral position when listening to participants and attempted to display professional expressions. Also, we tried to reflect appreciation for the dedicated time of respondents and value their efforts to overcome English language barrier as they were Swedish native speakers. We, ourselves, have to admit that we crossed one challenge regarding the language choice during the interviews. Exceptionally, one participant company required us to conduct the interview session in Swedish. Although this was not a major problem seeing that one of us is a Swedish native speaker. Still, having both partners conducting the interview often makes it easier to fully capture data received and not miss anything out.

Stage 3: Analyse and conclude

Once all interviews have been conducted and required information has been amassed, we commenced with transcribing recorded data. Lofland and Lofland (1995, cited in Bryman 2012, p. 484) reasoned that analysis of a qualitative research cannot adequately begin until we have transcribed all materials. According to Bryman (2012, p. 484), transcription can be put as the practice of representing:

“Audio and visual data such as the recordings of interviews, focus group or talk in consultation into written form for closer study” (Bailey, 2008, p. 127). This technique has the advantage *“of keeping intact the interviewees’ words...[and] allows the researcher to be more aware of the emerging themes”*

Regarding this study, we leaned upon transcription in order to overcome shortcomings of memories and any unconscious glosses we might have added to participants’ answers. This permitted to achieve more thorough levels of analysis (Bryman, 2012, p. 484). Furthermore, transcription enabled us to strengthen our position against bias scrutiny from opponents and other researchers, who themselves can re-analyse the given materials and make own comparisons (Bryman, 2012, p. 484). Nevertheless, in order to fully benefit from all these transcription’s advantages, we had to abide by specific instructions such as the use of quotation marks and the indication of coded participants (to respect ethical consideration). Likewise, to avoid any contextual incoherence or omission of delicate words as to keep the text clear, we here made sure to present the quotations as they were introduced and then created a narrative to lead readers through their interpretations (Bryman, 2012, p. 485).

As data was transcribed and easier to examine, we carried on to analysis part. It is important to note that in case of qualitative research, *“data analysis tends to be an ongoing and iterative process, implying that data collection, processing, analysis and reporting are intertwined, and not necessarily a successive process”* (Vosloo, 2014, p. 358). Correspondingly, as we initiated the arrangement of our transcribed data by pairing them and creating logical fit and coherence, we triggered unintentional interpretation process and ended up with coding and ‘conceptualization’ (Mack & Pützschel, 2014, p. 51). ‘Conceptualization’ essentially concerns detailing what is meant by a certain data and what is not (Sequeira, 2014, p. 3). Herein, we used this technique to organize under which question or theme our findings and terms can be disclosed. For this purpose, four categories were created. Each one of them represented a topic corresponding to the same order followed in our interview guide & protocol and also the logic pursued in our literature review chapter (e.g. biodiversity strategies and framework, voluntary drivers and a section on implications)

Another part in the process of data analysis is coding. It mainly refers to the process of category-labelling the data in order to “*evaluate, organize, and make sense*” out of it (Cope, 2010, p. 281-283). Coding in qualitative research serves multiple objectives, however in this study, we mostly used it to construct a “*searching aid*” that facilitates the step of analysis (Cope, 2010, p. 283). We distinguish between two types of coding; ‘descriptive codes’ and ‘content analysis’. The first one reveals the existence of any patterns, feature, themes which are already overt or indicated by participants and often employed to codify “*who, what, where, when, and how*” types of responses (Cope, 2010, p. 283). On the other hand, ‘content analysis’ is more commonly used when the study is quantitative whereof the main purpose of codifying is to identify the number of terms, expressions or features that have appeared during the recordings (Cope, 2010, p. 282). In light of these two types, we reckoned ‘descriptive codes’ as a more suitable technique. This choice was based on the fact that our collected data were mostly within the range of “*who, what, where, when, and how*” questions and they reflected more obvious patterns of classification.

As for the coding process, we embraced the practice depicted by Strauss and Corbin (1990, cited in Bryman 2012, p. 569). It fundamentally consists of three main steps. During the first one ‘open coding’, we initially started “*breaking down, examining, comparing, conceptualizing and categorizing data*” (Bryman, 2012, p. 569). The idea here was to generate as many potential categories as possible. In this, we determined three main segments under which data will be later categorized and coded. We named them as follows, ‘Biodiversity in Business Practice’, ‘Voluntary Drivers’ and ‘Implications’. However, we were unsure if these three categories are specific enough to answer our sub-questions (what BNG is, which stakeholders influence it, what positive and negative implications it has). Seeing that those topics are quite focal in our theoretical chapter, we therefore moved to the next step ‘axial coding’. This second phase attends to identify other possible patterns to the categories that were established in the first step. In this phase, Bryman (2012, p. 569) argued that scholars often re-categorize data in different manner than done before to create additional categories. By doing so, we found it more beneficial and clearer to have the stakeholders under a separate category in order to directly answer our second sub-question. Eventually, we ended up with the following four categories: ‘Biodiversity in Business Practice’, ‘Stakeholders’ Influence on Biodiversity Practice’ ‘Voluntary Drivers’ and ‘Implications’. In the last coding step ‘selective coding’, we were able to select and confirm the final core categories. In this, we tried to ensure that the chosen categories feature relevant findings, guarantee a more consistent overview on BNG topic and how participant companies perceive biodiversity concern.

Concerning how we went about coding procedure, we matched our four categories with ‘descriptive codes’ technique. We have followed key-words (e.g. NNL, BNG, stakeholders...etc) to capture similarities/differences in participants’ answers and we also relied on the technique of answering what, who, when and how questions. The reason behind mixing these two measures is to help us better organize our findings, keep the logic used in theoretical chapter and the interview guide while making it easier for us to analyse and draw interpretations. As illustrated earlier under this chapter, one of the key reasons to transcribe recordings is to provide floor for readers and other researchers to re-categorize, re-analyse collected data and evaluate the quality of interpretations reached. Hence, this allows us to reduce scrutiny and bias-related accusations that may ascend from our personal choices in the process of conceptualization and coding.

Towards the end of this section, it is important to point out that during our primary data analysis, we constructed an arranging table which we named ‘Primary Data Analysis Table’. This is used

to organize our transcribed information (see appendix 9). Essentially, after transcribing our first interview, we figured that we need a solid structure that helps us organize the transcribed information, which is in harmony with the order of our research question and sub-questions. We also realized that we need a structure that conforms with the logic adopted in our theoretical chapter. Hereafter, we based the primary data table on the aforementioned four categories: ‘Biodiversity in Business Practice’, ‘Stakeholders’ Influence on Biodiversity Practice’, ‘Voluntary Drivers’ and ‘Implications’. In the first category, we employed four sub-categories to explore and sort what biodiversity is under business. within the first sub-category, we sorted the exact biodiversity goal that companies are striving for (NNL or BNG). The second sub-category concerned what/who has triggered such goal. Afterwards, we organized and presented all collected data that related to what the companies are doing in terms of BNG in practice. In the last sub-category, we sort data that is in connection with the framework that companies are using to work with BNG. When it comes to the second category ‘Stakeholders’ Influence on Biodiversity Practice’, we captured and sorted extended data on which stakeholders mainly influence BNG. The third category on the ‘Voluntary Drivers’. We organized our data according to two sub-categories; general drivers and listed drivers. Lastly, we have indicated under the theoretical chapter that BNG’s positive/negative implications were not explored in early studies. Thus, we used such category to capture findings around this point. After constructing the primary data analysis table, we coded the firms from Letter A to G based on an arbitrary selection. Following the same method, we assigned the same alphabetic codes of companies to their representatives and we ended up with seven codes from INTA to INTG. Additionally, we coded the nine sub-categories with numbers to sort out our findings both by who stated them (participants) and under which sub-category they belong. A clarifying example is: INTA’s answer in sub-category 1 (if the company is following NNL or BNG) is denoted as INTA1 and so on. In summary, the coded primary data analysis table easily permitted us to link interviewees’ answers in a logical and coherent structure, while making it easier to spot and analyse similarities and differences between the seven companies.

Finally, we moved onward to compare and analyse data from a bigger spectrum. Correspondingly, we used “*case-cross synthesis*” or “*cross-case analysis*” approach refined by Yin (1993, cited in Kienstra and Van Der Heijden 2015, p. 6-7). Kienstra and Van Der Heijden (2015, p. 7) reasoned that the latter is the most suited strategy to compare across identified patterns in multiple case-studies research. In drawing conclusions, Khan and Wynsberghe (2008) discussed how cross-case analysis can be utilized to parallel similarities and differences between the selected cases. They also explained that it can be used to “*delineate the combination of factors that may have contributed to the outcomes of the case, seek or construct an explanation as to why one case is different or the same as others, make sense of puzzling or unique findings...*”. Nevertheless, the same authors (Khan & Wynsberghe, 2008) reasoned that cross-case analysis, whereof enriches the study and contributes to the theoretical chapter, is still subject to generalizability counter-arguments. Correspondingly, we are aware of this issue. We recognize that our interpretation/conclusion’s validity and generalizability are perhaps sounder when related to the time and context of the conducted interviews and the conditional setting (Khan & Wynsberghe, 2008).

3.4. Ethical Considerations

Eventually, conducting any kind of research brings the discussion into the realm of ethical considerations (Bryman, 2012, p. 130). Ethics touch the integrity of a partial share of any given research. Any values and disciplines used become a moot case (Bryman, 2012, p. 130). Fundamentally, ethics are defined as “*what is morally and legally right in research. They [ethics] are actually norms for conduct that distinguish between right and wrong, and*

acceptable and unacceptable behaviour” (Huma & Nayeem, 2017, p. 2). When conducting a research, Bryman (2012, pp. 130-131) discussed how ethics have come a long way since the 1960’s to become a major “*topic of concern*” as no data collection tool or a research is immune to public scrutiny if it doesn’t respect ethical values. And as of today, several ethical codes have emerged to underline issues that keep recurring in four main areas that researchers have to consider (Diener and Crandall, 1978, cited in Bryman 2012, p. 135). These four were introduced and described by Bryman (2012, p. 135) as follows:

Participants’ Protection Against any Harm

When conducting this study, we have pledged to ensure that no possible harm attains our participants either physically or psychologically. Here, despite our finest intentions to safeguard respondents’ wellbeing, we had to anticipate and prevent from any kind of unintentional mischief. Correspondingly, during the first contact with the seven investigated participants, we informed and reassured them they will not be involved in any form of illegitimate or disgraceful acts (Bryman, 2012, p. 135). Afterwards, during the process of data collection, we had worked to ensure that respondents’ self-esteem, safety and dignity remain intact and no pressure affects them (John et al., 2016, p. 208-209). This was attempted through the use of our controlled data collection tool (guided interviews) and morally sustainable assessment approaches (Eriksson & Kovalainen, 2008, p. 72).

Fully Informed Participants

Under this principle, we also in the first contact attempted to provide interviewees with all relevant information about ourselves, the purposes of our study, our intentions towards provided data and how it will be employed later on. This procedure was mandatory for both parties in order to make sure participants are cognisant of their choice to whether or not be part of our research (Bryman, 2012, p. 138). In this stream, Bryman (2012, p. 138) also added that interviewers should not only ask for participants’ consent, but they should equally inform them about the whole research process. Seeing the limited time that we had at hand in the initial contact with companies, we offered them to contact us regarding any unclear matters or lingering questions. We reasoned that this would help accentuate our openness, trustworthiness and our willingness to secure the wellbeing of participants.

No Invasion of Participants’ Privacy and Assurance of Anonymity and Confidentiality

In the third ethical area, respondents’ privacy might seem quite close to the issue of informed consent. It can be confused for that respondents’ participation entails their privacy’s submission (Bryman participants’, 2012, p. 142). Correspondingly, we had to notify participants that their ‘right to privacy’ is highly prioritized, where any means of misconduct threatening it for the sake of our research cannot be tolerated (Bryman, 2012, p. 142). In this, after asking participants for their permission to record the interviews and receiving one company’s wishes to remain anonymous, we assured it that its identity will be protected. We also assured it that recordings will remain confidentially retained during and after the research is done. This was emphasized not only by the use of name codes for all participant companies, but also by not enlisting a single company’s answers all together under the same idea. The purpose here was to prevent from exposing participants to the public.

No Deception is Allowed

Seeing that deception can demotivate participants from revealing some information by fear of using it otherwise, we tried to fully provide them with our objectives and intentions behind our study. In this line of thinking, Bryman (2012, p. 143) defined deception as the possibility to lead respondents to believe that the study is representing something other than what it truly

would later on. To avoid such problem, we tried to reflect as much trustworthiness and transparency as possible by having an open discussion in conducting the interviews. In this, participants were encouraged to ask any questions and demand explanations for any points that might be ambiguous. Moreover, we made sure that they were aware of their option to withdraw from the process whenever deception or any of the previously mentioned concerns are evoked.

At large, in the purpose of managing this study, we were aware of these ethical concerns and any others that could arise throughout the process. In this, we decided to follow an anticipative and preventive measure in working with these moral concerns. In order to fully achieve so, we adopted this kind of thinking from the very beginning, that is, during the initial contact with participant companies and carried it out till after this study was completed. In essence, we consider those ethical codes as a guide manual for us to guarantee our participants' satisfaction and ensure data protection. In addition to our ethical considerations, we mention three criteria which we believe are necessary to determine if findings are properly comprehended and to assess the overall research quality at the end of the process. According to Bryman (2012, pp. 46-48), these three quality criteria are 'reliability', 'replication' and 'validity'. Starting with reliability, a research is deemed reliable if the study's results and measures are stable and consistent enough to be 'repeatable' at any other time (Bryman, 2012, p. 46). In our case, this means that in order for it to be reliable, our research measures (interviews) must generate the same findings when conducted again. However, it is important to clarify that reliability criterion is often considered of lesser applicability in case of qualitative research (Collis & Hussey, 2014). This could be explained by the belief that a "*quantitative researcher is likely to be concerned with the question of whether a measure is stable or not*" (Bryman, 2012, p. 46). As for qualitative studies, repeating the research is not likely to generate the same findings. This is rooted in that semi-structured questions produce results that are open to be interpreted differently depending on participants and their different time realities (Machado & Woestenburger, 2018, pp. 49-50). For instance, the answer of one of our participants could highly differ from one period to another depending on her/his company's progress with the implementation of BNG strategy.

The second quality criterion is replication. It concerns the ability of a study to be replicable. Put differently, when other researchers decide to replicate the study for various reasons such as ensuring the evidence's validity, the original research conductor must explicate in detail how she/he went about every procedure throughout the whole process (Bryman, 2012, p. 47). From this perspective, we believe that we have explained, step by step, how we undertook our research from the beginning until the end. We made sure that every part of the process is described and every relevant material, that has been used, is presented and justified. Hereafter, we believe our research is able to support other scholars in their future research and hence contributes to replication.

The final quality criterion is validity. It is concerned with the integrity of the conclusions that a researcher generates (Bryman, 2012, p. 47). Kirk and Miller (1986, p. 21) have elaborated on validity and argued that it lies in the idea of "*whether the researcher sees what he or she thinks he sees, or she sees*". Herein, both authors explained how a researcher should always provide an evidence from the findings that justifies what has been interpreted (Kirk & Miller, 1986, p. 21). In this context, by following our interview guide and protocol, we have tried to ask questions that are in line with both our structure of theoretical chapter and our research question (sub-questions include). Additionally, we attempted to provide a piece of evidence for every interpretation we have provided under findings' discussion and analysis chapter. That being the case, we reckon our research has somewhat contributed to the validity criterion.

4. Secondary Data from the Context of Sweden

Under this chapter, we provide restricted information concerning the participant companies while respecting their anonymity and data confidentiality. We also elaborate on both sustainability's and biodiversity's status in Sweden along with the followed regulations. The chapter starts with a description of the companies' industry, size, along with their present and future environmental achievements. It is important to note that we chose to disclose specific information about them which we believe it would aid us later in the comparison of their identified drivers. Due to privacy wishes from Company G, we choose only to present a limited version of the data we have gathered around it. Concerning the second part of this chapter, we provide a brief overview of the status of sustainability and biodiversity in Sweden and the enforced legislation under this context. In this, we present the Swedish environmental code and regulations conformed-to by companies within land development. Appendix 10 contains a list of references for this chapter which has been modified to protect the identity of the companies and interviewees.

4.1. Secondary Data About Participant Companies

4.1.1. Company A

Company A is a mining business. It owns mines and smelters and is focused on the first stages on the processing chain which are prospecting, mining and enrichment, melting, refining as well as recycling (Company A, webpage, 2019). Company A employs around 5 000 people and has operations in Sweden, Finland, Norway, and Ireland. It is a publicly traded company on NASDAQ OMX Stockholm, where the largest shareholder owns around 10% (Company A, webpage, 2019).

Biodiversity Related Efforts

In 2019, Company A and Company F together signed a cooperation agreement regarding technological development within electrification of mines and smelters, circular economy and fossil freedom. The agreement includes battery solutions to support the electrical grid and optimize electricity consumption (Company A, press release, 2019). In its Annual and Sustainability Report, Company A stated that the effects on flora and fauna from its operations are measured to ensure that there is no net loss of biodiversity (Company A, Annual Report, 2019). Also, Company A has an extensive description of its work and a responsibility towards biodiversity. When planning a new mine, there is a requirement to do an Environmental Impact Assessment to inventory the biodiversity values. The company stated that this was done to be able to develop a project according to the mitigation hierarchy. What is more, Company A is investigating ecological compensation through a collaboration with a Swedish university, where it has initiated one of the most comprehensive research projects within this field (Company A, webpage, 2019).

4.1.2. Company B

Company B is a Finnish state-owned company in the energy production industry. In Sweden, it is considered one of the main energy businesses. Company B specializes in heating and cooling localities, producing and selling electricity, and smart solutions for electricity consumption (Company B, webpage, 2019). The business has entered the Swedish market during the '90s

and serves over 600,000 customers in Sweden, ranging from private manufacturing companies, electricity utilities to private households (Company B, webpage, 2019). Aside from providing power, heat and electricity services, Company B is also working on providing other services such as electric charging solutions for vehicles and bio-oil to also ensure a fossil fuel-free living (Company B, webpage, 2019). Although it owns several hydropower plants in Sweden, Company B equally targets other Nordic markets, Baltic countries, Russia, the UK, Germany, and India (Company B, webpage, 2019). Company B is one of the largest power provider and electricity retailer in northern Europe. The company's business strategy entails contributing to a 'cleaner world' by involving customers and guiding them towards such change. It also aims to redesign the energy system and enhance the usage of resources to increase shareholder's value (Company B, webpage, 2019).

Biodiversity Related Efforts

Regarding biodiversity efforts, Company B has a Biodiversity Manual and a Biodiversity Action Plan on its webpage (Company B, webpage, 2019). Company B highlights its hydropower business together with their emissions of CO₂ to be the most significant sources of impact. In its Biodiversity Action Plan, several restoration and offsetting efforts such as building fish ways and fish farming are listed (Company B, webpage, 2019).

4.1.3. Company C

Company C is an energy company that is delivering 100% renewable energy in the Nordic countries. The local tree municipalities own it. The company is more than a hundred years old and has been delivering renewable energy from its very beginning. Company C sources energy from the sun, water, wind, and forest (Company C, webpage, n.d.).

Biodiversity Related Efforts

Company C stated that it has changed from environmental goals (Sw.: Miljömål) to sustainability goals (Sw.: Hållbarhetsmål) based on the agenda for the year 2030 from the UN. From this agenda and according to its annual report (n.d.), the company has chosen to focus on eight of the sustainability goals, with one of them being 'Ecosystem and Biodiversity' (Company C, webpage, n.d.). In its annual report, Company C has a section about its biodiversity work. The company acknowledges that the loss of biodiversity is one of the most substantial challenges and that the impoverishment of natural capital leads to the endangered fate of ecosystem services. Clean air, water access, and raw materials are factually being lost. Company C connects biodiversity to all business areas which have an environmental impact; waters with hydropower stations, areas with wind power parks, forests which deliver biomass and fields with electric grid and heating network work (Company C, webpage, n.d.) Company C has an environmental fund, which is the company's most crucial tool in its biodiversity work. In the fund's board, independent experts sit on the board and present suggested efforts, which can sustain or strengthen biological conservation status (Company C, webpage, n.d.). Fields that are enlisted as interesting for future projects are restoration and compensation actions, as well as taking more holistic approaches over larger areas and complete biotopes (Company C, webpage, n.d.).

4.1.4. Company D

Company D is a Swedish business that specializes in iron mining, manufacturing, and distributing iron ore products from minefields located in northern parts of Sweden (Company D, annual report, 2018). Company D is 100% owned by the Swedish State. It was established during the 1890s, which makes it one of the oldest industrial companies in Sweden. It is among

the largest producers of iron ore products in Europe and is among the world's biggest manufacturers in 'seaborne pellet market' (Company D, annual report, 2018). Currently, Company D's upgraded products are shipped to customers worldwide (USA, Europe, North Africa, the Middle East, and Asia).

Biodiversity Related Efforts

Company D is implementing sustainability in its work and business strategy (Company D, annual report, 2018). The company has aspired to become one of the world's most effective businesses in terms of resources and environment usage. It is currently working to reduce its energy utilization and discharge in order to mitigate the adverse impacts of its activities on the environment (Company D, webpage, 2017). In 2018, Company D enlisted its long-term goal, which consists in neutralizing carbon-dioxide emission from its operations. This goal is also connected with the company's objective to achieve a neutral use of water and energy and offset its emissions on the surrounding environment (Company D, annual report, 2018). Company D has explicitly disclosed in its latest annual report (2018) that it is aiming to protect biodiversity and to transform residual products into resources to be re-used again. It has further stated that its ambition is to achieve NNL at its operations. Company D further state that it is working with the four steps of the mitigation hierarchy (Company D, annual report, 2018). Company D has engaged in a partnership with one of the other interviewed companies (Company F) and another aerospace business (Company D, annual report, 2018). The purpose of this partnership is to "replace coking coal, traditionally needed for ore-based steel making with hydrogen" (Project webpage, n.d.). If successful, this initiative will be the world's first outbreaking technology for fossil-free steel-making with zero carbon emissions (Project webpage, n.d.). This technology would enable Sweden to achieve a substantial step towards attaining its climate targets for 2045 (Company D, annual report, 2018).

4.1.5. Company E

Company E is a Swedish company within the food industry which only sells organic products. It was founded in the mid-1900s and was originally only selling Swedish organic products, namely certain grains and flours. During the later years, it has broadened its products' range to include 150 more products such as dried fruits, beans and olive oil from organic farmers around the world (Company E, webpage, n.d. a). In 2017, 71 % of all the products sold by Company E were grown in Sweden. The remaining 29 % were grown in 21 different countries, in which Turkey and Italy were the largest contributors (Company E, blog, 2018a). Around 15 foundations own company E.

Biodiversity Related Efforts

Together with their organic farmers, Company E has developed "the farmer's toolbox" consisting of around 150 environmental enhancing tools or actions that farmers can use to go even further in the environmental work. The more tools a farmer utilizes, the more she/he gets paid from Company E for her/his production. Moreover, Company E has explicitly stated that the toolbox's actions contribute to an increase of biodiversity, reduce the overfertilization, and alleviate the impacts on climate change (Company E, blog, 2018b). What is more, Company E stated that it aims towards achieving fossil free living by 2021. In order to achieve this, it strives to primarily use fossil-free transportation (Company E, webpage, n.d. b). In 2006, it was among the first companies in Sweden to compensate for its CO₂ emissions. Mainly, this climate compensation was and is still being done through tree-planting projects in Bolivia. This project is not only limited to environmental compensation, but also extends to include the creation of

wealth for the local society as income possibilities are created along with the growth of the trees (Company E, blog, 2019).

4.1.6. Company F

Company F is a Swedish state-owned business specializing in producing electricity and heat. It is one of the largest producers and retailers of electricity and energy in Europe. Sweden, Denmark, Germany, the UK, and the Netherlands are its primary focus (Company F, annual report, 2018). With over 20,000 employees, Company F is providing over 14,000,000 customers with gas, heat, electricity, and electricity solutions (Company F, annual report, 2018). By looking at Company F's activities, we can classify its operations within four segments 'Customers & Solutions', 'Power Generation', 'Wind', 'Heat and Distribution' (Company F, annual report, 2018). In managing all these operations, company F has openly announced a quality update of materiality in order to align its business strategy with specific sustainability goals (Company F, annual report, 2018). Likewise, it made it clear that by committing to achieve sustainable production, the company's objective is to meet its customers' and stakeholders' expectations. In this, Company F also aims to reflect a clear picture of its business orientation while reaping the advantages of sustainable business opportunities (Company F, annual report, 2018).

Biodiversity Related Efforts

When it comes to evaluating its impacts on the environment, Company F has recently declared that it is still reviewing its contributions to biodiversity and ecosystem alterations (Company F, annual report, 2018). According to its latest statistics, the business has so far managed to grow its total value by SEK 1.1 billion, chiefly, from halving CO₂ releases and explicitly communicating with its stakeholders about its objective to achieve fossil-free life in the next ten years (Company F, annual report, 2018). Company F is currently reviewing the benefits of funding biodiversity research, but also adverse effects such as land deployment and changes in the ecosystem. In their annual report (2018), Company F explicitly states that they are striving towards reducing their negative impact on biodiversity in their distributional network. At the same time, they wish to use the land surrounding their buildings in the best possible way in order to help protected species and endangered species. Regarding its future sustainability plans, Company F is currently engaging in a set of partnerships to reduce its negative impacts on the environment and contribute to biodiversity (Company F, annual report, 2018).

4.1.7. Company G

Company G is a Swedish state-owned business that works with properties in Sweden.

Biodiversity Related Efforts

Regarding its sustainability achievements and plans, the company is part of the UN's Global Compact and the fossil free plan in Sweden (Company G, sustainable work report, 2017). In its annual rapport of 2018, Company G has ordered suggestions on 'green forest management plans' for some of its real estates, which was described to be conducted as pilot projects during 2019. The rapport discloses that the purpose of these efforts is to increase the biodiversity and the recreational value of the forest which they manage on their estates (Company G, sustainable work report, 2018).

4.1.8. Comparative Table of Interviewed Companies

We complement our secondary data chapter with a constructed comparative table (see Table 8). The reason behind providing the following specific information (industry, size, sector ownership, and revenue) is to assist us in understanding and rationalizing collected primary data. We believe such a table can help us compare the companies' stated drivers in order to detect patterns and reasons that explain what encouraged these seven companies to be voluntarily following net gain goal while managing their business.

Table 8: Contextual Information About the Interviewed Companies

Company	A	B	C	D	E	F	G
Industry	Mining	Energy	Energy	Mining	Organic Food	Energy	Real Estates
Number of Employees	~ 5 000	~ 8 000	~ 400	~ 4 000	~ 100	~ 20 000	~ 200
Ownership	Private Owned	State Owned	State Owned	State owned	Private Owned	State Owned	State Owned
Revenue in Billion SEK (2018)	~ 10	~ 50 (2017)	~ 10	~ 30	> 1	> 150	~ 2 (2017)

4.2. Current Status of Sustainability and Biodiversity in Sweden

How sustainable is Sweden? We chose to include this section to give the reader a greater possibility to deem how translatable our research and our findings can be to their pursuit. Seeing that six of the selected companies are originally Swedish and most importantly, all of them are operating in Sweden, our aim in this section is to add context through presenting findings of the current state of sustainability in Sweden, environmental code and legislation.

4.2.1. Sustainability in Sweden

Based on the Environmental Performance Index, Sweden ranks 5th among 180 countries in the world. The Environmental Performance Index is a jointly produced index by the World Economic Forum and the two universities of Yale and Columbia. Countries are often ranked in terms of 24 performance standards covering both environmental health and ecosystem vitality (EPI, 2018a). Correspondingly, Sweden's position within different environmental areas is presented in appendix 11. Sweden was ranked as number 5 in total, even if it ranks worse in the majority of the categories. This ranking is due to how the measurements were weighted (EPI, 2018b). Since biodiversity within businesses in Sweden is the main focus of this thesis, we would like to highlight that Sweden only ranks 75th under 'Biodiversity & Habitat'.

In appendix 11, Sweden ranks third in 'Climate & Energy'. This strong position is further supported by Eurostat's report on renewable energy (as cited in TT, 2018) stating that 53,8 % of the energy used in Sweden comes from renewable resources making it the leading country in Europe. The country with the lowest level was Holland, with only 6% (TT, 2018).

4.2.2. Biodiversity in Sweden

As could be seen in appendix 11, Sweden only managed to attain the 75th position among 180 countries in the category of Biodiversity & Habitat. A more detailed view of this category is displayed in appendix 12. Categories which could need clarification are 'Biome Protection',

‘Representatives Index’ and ‘Species Habitat’. ‘Biome Protection’ calculates “the proportions of important biomes that fall within protected areas” (EPI, 2018b). The ‘national’ category strives to indicate how much the country tries to “protect rare ecoregions within its borders”, while the ‘global’ weights the value of the protected species in relation with the global extent of those biomes. (EPI, 2018b) ‘Representatives Index’ ranks how the country has protected terrestrial areas that are ecologically representative. ‘Species Habitat’ rank is based on how big proportion of habitat that is remaining in comparison to the baseline year of 2001 (EPI, 2018b).

Even if the EPI gives an overview of some useful measurements, there is no all-encompassing surveillance of the Swedish biodiversity. This lack of surveillance is not just exceptionally in Sweden. The Swedish Environmental Protection Agency (Sw.: Naturvårdsverket) (2018a) stated that no country is known to have this. Due to the project The Swedish Species Project (Sw.: Svenska artprojektet) at the Swedish University of Agricultural Sciences, the Swedish biodiversity is relatively well known (Naturvårdsverket, 2018a). Every fifth year, the state of Sweden’s plants, animals and fungus are evaluated in the publication put out by the Species Database (Sw.: ArtDatabanken) named ‘the red list’ (Sw.: Rödlistan) (Naturvårdsverket, 2018a).

4.2.3. State of Biodiversity Reporting

According to a report from ACTP (2019), the companies investigated did not sufficiently report their actual impact on biodiversity. In the report which investigated 105 European companies, it was found that only 11 % of businesses were adequately reporting the impact of their activities on biodiversity. There was 46 % of the companies who mentioned what their biodiversity policy is. The authors of the report stated that one major issue here is that these companies do not accurately disclose what they are explicitly doing (ACTP, 2019, p. 66). The report also concluded that the stakeholders of the investigated businesses are not provided with sufficient information in the current sustainability reporting. This lack of knowledge leads to stakeholders not being able to properly understand the risks, the impacts these companies had, or the strategies used to tackle these biodiversity issues (ACTP, 2019, p. 7). In contrast to these gloomy numbers, the same report found that the Nordic countries are best at reporting about sustainability and biodiversity (ACTP, 2019, p. 26).

4.3. Current Legislation in Sweden

4.3.1. Reporting

Since 2007, companies owned by the Swedish state became obliged to report about their sustainability work. From 2017 and onwards, the same regulation was also enforced upon all medium to large companies in Sweden (Jansmyr, 2018). Medium to large companies are companies with at least two of three criteria: (i) more than 250 employees, (ii) revenue above 350 MSEK and (iii) assets greater than 175 MSEK (Jansmyr, 2018).

4.3.2. The Swedish Environmental Code

When a company plans to initiate a project, which involves impacting nature, the project has to be tested according to the Swedish Environmental Code (Sw.: Miljöbalken) (SFS 1998:808). “To preserve biodiversity” is one of the five main objectives of the environmental code. This objective, together with the others, can be encapsulated in table 9.

Table 9: Summary of The Swedish Environmental Code (SFS 1998:808)

The Swedish Environmental should be applied so that:
<ul style="list-style-type: none"> • The health and environment of people is protected against damages and inconveniences no matter if these are caused by pollutants or other effect • Valuable nature and cultural environments are protected and cared for, • The biodiversity is preserved, • Ground, water and physical environment in general is used so that from an ecological, social, cultural and socioeconomical viewpoint a good economy is secured • Reuse and recycling and other husbandry with material, raw material and energy is supported so that a cycle is achieved

According to the Swedish Environmental Code, it is mandatory to do and attach an Environmental Impact Assessment (EIA) (Sw.: Miljökonsekvensbeskrivning; short: MKB) (SFS 1998:808) when initiating a new environmental oriented project. The EIA contains the following requirements (Naturvårdsverket, 2018b):

- A description of the current project.
- Environmental conditions in the area of eventual implementation of the project.
- Possible environmental consequences at the implementation of the project.
- Possibilities to reduce the negative environmental consequences.
- Unavoidable negative environmental consequences.
- Alternatives to the project and the effects of the alternatives.
- Analysis of how the local and short-term usage of the environment relates to the ambition to have a long-term positive impact on the environment.
- The presence of irreversible effects.

Usually, legislation is stricter when the suggested projects of land development are to affect protected nature, such as Natura 2000-areas. In these types of areas, the impact always has to be compensated. In this, the requirement of compensation can also be connected to the issue of dispensation following the Species Protection Regulation (Sw.: Artskyddsförordningen) if an industry endangers protected species. These two aspects were, in 2014, reported to be the common reason for the compensation requirement (Hedlund, 2014).

While the Swedish Environmental Code has made some contributions to the environment protection, it still received some critique in the last years from influential institutions and communities (TT, 2010; Hollertz, 2018). The Swedish, Environmental Protection Agency, criticized the law in 2010 after having evaluated how the law had been changed since its enforcement and deemed the law “indefinite, incoherent and inadequate” (TT, 2010). However, there has been an endeavor to propose a change in this regard. One of these legislative suggestions, which is of relevance to our thesis since it concerns biodiversity, is ‘the investigation of ecological compensation’. We present it in the following section.

4.3.3. Report of The Investigation of Ecological Compensation

In 2014, it was becoming more common that authorities required companies to compensate for damage caused to an ecosystem, natural environments, and species as a condition to accessing project permission (Hedlund, 2014). In 2017, this urged the departments of the Swedish government to publish ‘Report of The Investigation of ecological compensation’ (Sw.: *Betänkande av Utredningen om ekologisk kompensation*) (SOU, 2017). In this report, different

aspects of the concept of ecological compensation are investigated together with how a system of ecological compensation could be implemented in Sweden (SOU, 2017). At the time of the conduction of our study, the report was still collecting remittances from expert stakeholders in the field. Ecogain and one of the interviewed companies have contributed to remittances (Regeringskansliet, 2018). The report is summarized below:

The term ecological compensation (*Sw.: ekologisk kompensation*) was defined as “*actions to counteract the net loss of biodiversity and ecosystem services, while the demand of land development is catered for*” (SOU, 2017, p. 16). The report suggested changes to the Swedish Environmental Code and other parts of the law. Among these raised suggestions in the report, appendix 13 lists those of greatest relevance for this thesis. One of the interviewed companies has left a remittance to this report in which it is objecting parts of the suggested changes of regulation and does not fortify the report (Regeringskansliet, 2018)

In summary, what we could grasp by delving into biodiversity and its concerned legislations in Sweden is that the latter often impact companies differently from one industry to another. In this, we wanted to cast light on the most relevant regulations that we believe are of most significant interest to our thesis. Although we could go even further into such extensive topic, we focused, due to time and space restrictions, mainly on Swedish legislation and environmental codes that are primarily related to biodiversity under business context. In the following chapter, we explore in practice how our participant companies work with biodiversity strategies to deal with the loss of biodiversity.

5. Empirical Findings

Under this chapter, we outline our most relevant empirical findings from primary data collection. first, we describe our interviews' sessions (number of interviewees and how the interviews generally went about and how they were completed). Afterwards, we present the most significant findings following the same structure of our primary data analysis table (see appendix 9).

5.1. Interviews Setting

We have interviewed a total of seven companies, mostly originating from Sweden with the exception of Company B, which is Finnish but also operating in the Swedish lands. The interviews were conducted during the period between April 11th and April 24th. We have travelled to two different regions in Sweden to be physically present with our interviewees, namely INTB and INTC. The other sessions took place via 'Skype for Business'. It is important to mention that due to respecting few participants' wishes to have an audio interview and more specifically, because there was a dire confidentiality concern on the part of Company G, we had to settle for three audio interview sessions. As for the time scheduled for conducting the interviews, each meeting differed from one company to another, but at large, most of them were held in the morning. As for the duration of the interviews, some lasted longer than others, although it could be said that the majority were between 60-90 minute-long. In this regard, we had two exceptions; Company A and Company C lasted 100 minutes and 110 minutes respectively. This could be explained by the fact that we were physically present during these interviews. Aligning with our promise to respect participants' anonymity wishes, we do not specify age, gender or any other detailed information that can be used to identify the persons we were in contact with.

At the beginning of each interview, we worked on breaking the ice with our participants and turning the session into friendlier conversation as to make the interviewees more comfortable and open to elaborate on the answers. We attempted to ease up the atmosphere and aimed to make them feel more encouraged to speak freely and abundantly. In similar manner, we reminded our participants if we could record the session to confirm their consent, while assuring them of data confidentiality and anonymity. Usually, as soon as the interviews have started, we found ourselves adjusting to the answering style of our participants and feeling smoother in linking ideas and asking the next question. As soon as we engaged in the topic and questions, some interviewees were more enthusiastic and provided copious answers that made us follow their order on biodiversity topic. In other interviews, we tried to put more efforts into sticking to our protocol and interview guide to ensure that we get rigorous answers within time's limit.

Subsequent to the pilot interview, we realized that a revision of the opening questions was necessary. Our decision to make this change was rooted in INTB's clear comments to the vagueness of our previous question 'How does your company work with sustainability?'. Herein, we understood that an interviewee cannot describe all the sustainable work that one company has done or still does. The notion of sustainability itself is very extensive and it could be hard to define what is considered as sustainable-related practices and what is not. To avoid confusing our participants, we decided to skip the such question and replaced it with a more specific one. We asked participants to specifically describe how sustainability's major achievements have evolved over the years since the company initially started working with it (see data collection protocol and interview guide appendix 8). We believed this question is easier to understand since it targets the main sustainable work that has already been achieved

so far, while explaining how the latter has progressed and evolved over the years. Additionally, we reasoned this question is more appropriate because it helps make a smoother transition from a general topic to a more specific one. Specifically, it moves from sustainability to a more detailed ‘CSR’ practices and eventually to the companies’ work with biodiversity strategies.

For the most part, the interviews’ sessions went quite well and involved a friendly atmosphere. The usage of informal language has helped ease up any stiffness arising during the interviews and played a major part in transforming the sessions into a more pleasant experience with an interesting exchange of knowledge. When it comes to the language used to conduct our interviews, all participants agreed to English with one exception. Participant INTC stated her/his wishes to have the interview in her/his native language (Swedish) in order to better express own opinion and experiences. Here, we believe it is fair to indicate that such interview’s transcription and translation might have led us to misunderstand some details. As debutant researchers in this field, we both have grown knowledgeable about BNG’s topic in English. Factually, we are more familiar with the English terms of biodiversity concepts and therefore, this language barrier could interfere with our efforts to keep our quality criteria (see section 7.4).

Judging by the overall quality of the interview sessions, our participants were quite into biodiversity topic. They openly answered our questions and did not refuse to answer any of them. Congenially, one of the interviewees (INTB) found our comments quite interesting and offered to take our topic’s concerns regarding biodiversity and BNG to the corporate department during their upcoming meeting: “I’m glad you asked the question about no net loss in investments, I will gladly raise that issues within our environmental team after this interview”. Regarding how we ended our interviews, we usually tried when time allowed it to ask about whether the participants had any comments they wish to add regarding the interview, the questions or the topic.

As aforementioned under the methodology chapter (see section 3.3.2), we have followed a specific structure to sort the collected primary data. In this, we have constructed ‘Primary Data Analysis Table (see appendix 9) which consisted of four categories to match the same logic followed in our theoretical chapter and the interview guide. Sometimes, it was hard and even not possible to find or to capture statements from our interviewees that specifically depicted BNG. Yet, we strived to analyse their explanations and their companies’ long-term goal behind the followed biodiversity strategy. Afterwards, we attempted to sort them out under the same illustrated table (see appendix 9) in order to facilitate information’s analysis and comparison in the discussion and analysis chapter. It is important to indicate here that we have followed the same structure of this table (categories and sub-categories) not only to sort our collected data but also to present our findings. Hence, this explains the use of the same heading and sub-heading in our findings’ section.

The majority of our interviewees were environmental experts which held positions such as (project) managers/leaders in Business Development, Sustainability Group, Quality & Service Quality, Environment & Safety and/or Environmental Coordination. We enlisted each participant’s position under the coding table (see appendix 14). It is important to indicate that the answers stated by our participants are representative of their companies as a whole. Still, the findings might not mirror the individual stances of the employees outside of the environmental department. As explained earlier, all interviewees are quite experienced with environmental sustainability work and familiar with biodiversity’s notion. The majority of them immediately recognized NNL and BNG strategies since they have been in contact with Ecogain.

Additionally, one of the participants, INTF, has worked with Anders Enetjärn for a while before moving to Company F. At large, our interviewees were really knowledgeable about biodiversity, where some of them have worked within the field for far longer duration than others (over twenty years). Infrequently, we had to rephrase our question or add small explanation to define academic terms such as mitigation hierarchy. Still, we could say that our interviewees did not seem to have any problem understanding them.

5.2. Findings

5.2.1. Biodiversity in Business Practice

In the following section, we described the participants' answers with regard to questions on their companies' biodiversity practices. Essentially, this involved inquiring them about four particular matters. Initially, we began by asking them on which specific strategy they are applying or which goal they are aiming for in the long-term (NNL or BNG). At the second level, we inquired them regarding who or what has triggered such initiatives. Afterwards, as we wanted to explore what BNG is in practice, we asked our participants about what their companies are doing in terms of BNG. In the final part of this section, we explored the nature of the framework followed by our participant companies in achieving their ultimate biodiversity goal. Herein, it is important to point out that the following section intends to answer our first sub-question regarding what BNG is.

The Implemented Biodiversity Strategy; NNL or BNG?

When it comes to which strategy and biodiversity goal our companies brought into practice, participants presented somewhat similar answers with few exceptions. The exceptions might be explained by the dissimilar industries. In essence, seeing the majority of our answers, we found out that BNG is the explicit goal in this network of companies. For instance, in the case of Company E which works in the organic food sector, INTE1 was quite overt in her/his reply: "What we do say is that we actually have ambitions to have positive impact in that sense that we can make conventional farmers convert to organic. That would have positive impact on the biodiversity, so it can be very interesting for conventional farmers as partners and if they want to supply us, they have to be organic. That I guess is the gain for biodiversity." Likewise, INTG1, who described her/his company in properties and real estate business, confirmed the soon-to-be implemented BNG strategy: "We want to put up a strategy and we are going to start with that strategy in few weeks with Net Gain and not NNL. We do look at the existing buildings and we want to work with NNL and what we can do there, but we want to work with that in new buildings. And when we buy properties, the goal is Net Gain (...) We haven't started it yet but within few weeks we will hopefully. And it is going to be in our business plan for 2022."

As for the interviewed participants in the mining industry, it was equally revealed that company A and company D are striving to achieve biodiversity positive impacts. In this, INTD1 reasoned that both biodiversity strategies are related as one company cannot aim to increase biodiversity unless it nullifies all its negative impacts first. Here, INTD1 told us: "I think they [NNL and BNG] are connected. You cannot go Net Gain if you don't go through NNL. So, I think we try the best we can, we don't only do compensatory actions (...), we try to ensure that mines are also being taken care-of and improving and have natural values again (...). The whole goal is to make sure the whole organisation is doing the job with small impact as possible and when we are done, we try to improve the possibility for natural values to have structures that are good for natural values (...) Yes, the goal is Net Gain, but what we do now is to ensure that we will have Net Gain, we do the best we can."

In contrast to these clear visions and specified goals of the to-be/incorporated biodiversity positive practices, INTF1 explained the difficulty to work with hydro power and biodiversity together. The aim for a BNG's goal was expressed as harder especially that biodiversity itself is a new knowledge and it might not be quite easy to measure it. Still, INTF1 described the company's efforts to compensate throughout fish farming in the Baltic: "What we do are the different actions we work with to improve and hopefully increase biodiversity (...) and we have had it for two years, where we also have targets, actions and follow ups. And this could be difficult issues with hydro power".

Among the energy companies, concerns were raised regarding the balancing act of the necessity and the societal value of their companies to their desire for BNG. INTB1 described it as "I really aim for no net loss and high biodiversity, but I also see the absolutely need of hydropower, at least for the coming 50 – 100 years". She/he also added that: "We have in our KPI different action where we work with improving, and hopefully increasing Biodiversity". Company C had the same goal. However, INTC1 added another dimension through giving voice to the question of how to value historical debt "one can also graduate in such a way that the environmental debt of ours, if one is now looking historically, is that we have taken 18 hydroelectric power plants today and that has of course affected... but at the same time, we have delivered renewable electricity that has been translated into the different services of society." INTC1 was, therefore, cautious to explicitly state their goal since they deem it too hard to measure, and they "don't want to be criticized for green wash" (INTC1). INTC1 also ventured into the discussion about restoring the habitat to encompass identical type of values, or to turn it into something different but maintain the biodiversity values. Company C had been taking peat from a bog and had now different biodiversity enhanced projects to restore the same area but with other forms of biodiversity: "That is, within the course of 33 years, you have gained a completely new biotope. You complete, so to speak, a circle. And you get a whole new type of biotope. You get a new kind of biodiversity." (INTC1).

The Trigger Behind Implementing Biodiversity Strategies

At the beginning of this part in the interview, we wanted to know when and who has triggered biodiversity. Our decision to explore such matter was mainly because participants specialize in different industries (mining, energy production, food and real estate and properties). We believed it is interesting to show who or what has encouraged these businesses in Sweden to voluntarily implement this contemporary biodiversity concept and strive to achieve environmental positive impacts. Our participant companies come from different industries; Company E (Organic Food) Company G (properties and real estates), Company A & Company D (mining) and Company B, Company C and Company F (energy production). Here, we reasoned that studying the different triggers could give us concrete insights on the origins of biodiversity practices under corporations. Overall, we received different answers relating to who and what has started biodiversity initiatives. Participants INTA2, INTB2, INTC2, INTE2 and INTG2 confirmed that biodiversity was initiated mainly from within the companies such as the efforts of the environmental experts, adjoined, sometimes, with the support of top management and the corporate level: "They [biodiversity initiatives] have originated from me. I am the one who has been pushing for it for about 5 years [...] I would say last summer with the fire, it helped people understand we need to work with biodiversity if we are going to make it. So that helped put it on the agenda" (INTG2). In line with this, INTE2 emphasized the role of the CEO by saying: "I guess that was pretty much a personal interest from the CEO and myself. We decided that we have to do something that resists the bad reputation of the farmers because we can use the 'Tool Box' (their biodiversity practice) to talk about what they are actually doing. We want to be able to tell the story of what Company E is actually doing that is

good for the environment.” INTA2 pointed to the field of expertise and also the interest of employees in these issues “I’m a forester, we have a lot of biologists working here. People are really interested in doing a good work [as in wanting to help nature]. That has been one trigger”

Going further in this regard, other participants clarified that stakeholders were their main trigger to incorporate biodiversity. However, in contrast to the previous participants, INTB2 explained that corporate level (internal stakeholders) was not much in line with them at the time: “I have been working with it [biodiversity] since almost 20 years and I would say that there was no acceptance on corporate level in that time, so we worked with that because of stakeholders. They came to us and said this is a problem...what can be done about it? Well, let’s cooperate then... We have been more aware earlier than corporate level. I would say that we have impact on the corporate level but of course a lot of other stakeholders” (INTB2). INTD2’s answer was somewhat close to that of INTB2’s. Although, the word ‘stakeholders’ was not directly mentioned, INTD2 rather referred to their companies’ efforts to meet the expectations of both the external and internal stakeholders: “I think it [biodiversity] started because we knew we would get hard time to get permits if we didn’t. So, and we wanted to be global for the law, work harder for the demand (...) and compromise with ambitious people in our organization who wanted to be the best at what they do”. Minorities, such as the Sami population were mentioned by both INTA2 and INTC2 to be a main contributing trigger of their biodiversity strategy “We are working with the Sami, that has been one trigger” (INTA2). INTB2 and INTC2 clearly viewed the criticism the company had received from external interest groups (such as anglers, reindeer herders and bird watching societies), media and the public as a trigger for their biodiversity strategies. “It is so easy to criticize, you go in and do a thing, and then the interest organizations say, type anglers or mountain rescuers, ‘damn, that was not good’ or ‘that was completely wrong’” (INTC2). In this, INTB2 expressed: “Because of course, we want to be a credible and trustworthy company and if some years ago, something was written about Company B it was more or less always negative. And I would say that that has changed now, but now the criticism has more or less vanished I would say in media.”

Two interviewees (INTC2 and INTA2) had the opinion that the demands from the owners was a trigger behind implementing their biodiversity initiatives. Company C is owned by the three local municipalities and as INTC2 said: “If there is anything that politicians know today, it is the climate issue”. The owners of Company A are of a different character as it is a publicly traded company. Hence the owners are the shareholders of the company and “demands from shareholders are increasing” (INTA2).

In accordance with earlier statements about stakeholders, INTF2 elaborated on external incentives as their main stimulus to initiate working with biodiversity. In this INTF2 mentioned legislations as their trigger: “I would say that it was triggered by legal requirements and the legal development on the area of biodiversity. From the beginning, it has been the main driver to get in the business strategy (...) All hydro power plants need to have modern permits, it is a little of a situation that they need to be updated in order for Sweden to comply with EU legislations. This has triggered a lot of things when it comes to environmental adaption for hydro power and for the business as a whole.”. As a stark contrast to INTF2, INTB2, who also is working in the energy industry, commented that “I would say that so far, legislation has not helped biodiversity. I would say that this voluntary work with biodiversity is the main work concerning biodiversity and not what the requirements are from legislation”.

INTB2 and INTC2 also pointed to external triggers, or at least enablers, of their biodiversity strategies. These were the Sustainable Development Goals (hereon: SDGs) put out by United

Nations along with the Swedish National Environmental Goals which are put out by the Swedish state but are derived from the EU environmental goals. INTB2 and INTC2 believed that the SDGs had enabled biodiversity to reach the prominent position it had within their companies: “Of course, we want to work according to UN sustainability goals. We also have the national goals, at least in Sweden, I don’t know about Finland, where biodiversity is one of the sustainability goals, number 14 and 16, which are applicable to our work. We want to look at ‘what are we aiming towards on a global scale’ and to see ‘how can we contribute’ and that is important at [company B].” (INTB2). The same train of thought was further explained by INTC2. She/he reported the future legislation, such as the report on ecological compensation (see section 4.3.3) as being an enabling force: “Biodiversity has got a larger place due to the SDGs, but also nationally due to the government investigating compensation pools”.

In general, the triggers for our participants have differed from being either internal stakeholders like the employers, employees and the environmental specialists working with them to the external ones such as government, legislations and permits regulators, interest groups, minorities and Non-Governmental Organizations.

What Companies Are Doing in Terms of BNG

Under this part of the interview, we provided information to answer the first sub-question regarding what BNG is. Herein, we captured information about what defines net gain when it is applied in business. We did this in order to get a greater understanding not only about what has been stated in companies’ official publications, but also what actually is being done in practice. In the interviews, the focus was mainly on the companies’ initiatives on the strategic level and operational activities. This can be a result of the interviewees working operationally and as part of the environmental unit of the company, rather than in the corporate department. Some of the interviewees focused on both the organisational structure and strategic issues while others focused only on direct biodiversity enhancing actions that have already been taken. We have found many different biodiversity enhancing practices that can be called BNG-oriented which we decided to encapsulate in the following categories: *direct biodiversity actions*, *off-site local biodiversity actions*, *research-related actions*, *dedicated units working with biodiversity*, *cooperation-related actions*, *business model-related actions*, *mitigation banking-related actions* and *politically-related actions*. Each is further explained below.

Direct Biodiversity Actions

BNG can take the form of actions that directly increase the value of lands where the companies are operating. In our case, the majority of the companies, with the exception of Company E, have showed us examples on locally engaging with biodiversity, which can be said as directly improving the condition of the onsite environment. Here, it is important to clarify that Company E’s impact on biodiversity is rather done by medium of its suppliers (farmers). Hence, it is the farmers’ practices and not Company E that directly impact biodiversity onsite location. One example illustrating direct involvement with biodiversity is improving the conditions of projects’ sites such as certain species’ natural habitats. This could be done through fish farming for instance or by protecting them from invasive species or other threatening circumstances. Against this background, INTC3 told us: “Sometimes we can succeed in increasing the ecosystem services in biological diversity by creating a renewable production. We make sure we have a fish migration and we have an aquatic migration. We socially make the area available in such a way that more people can reach it here and enjoy it”. In another industry, Company G (real estate industry) quite differs from the rest of the businesses in its direct involvement with biodiversity. Essentially, INTG3 informed us that they are using biodiversity practices to slow down the climate crisis. And since they are in the properties’ business, they try to increase

biodiversity through the medium of the properties' users. They do voluntary work, six hours a day, and "usually have workshops and stuff and they produce a lot of things to sell on the market and they have a lot of built woods. They make bird boxes and butterflies boxes."

Taking a glance on what a company in mining industry described its direct work with biodiversity to be, INTD3 informed us that their business has saved forests from deforestation. They also told us that they are creating habitats and equipping them with natural aspects that typically attract needed species. Our participant further added that: "It is complex to ensure that we have net gain. but anyway, we built a model and we respected the distance of the actual pipes and we compare them to the best of the best. We make inventory on the examples of the best and we try to have that on our scale."

Off-Site Local Biodiversity Actions

Working towards net gain can also manifests under positive changes to locations that are not related to lands being used or impacted by the business. In this regard, Company C, Company A and Company B realized, in working with Ecogain, that biodiversity's improving measures do not necessarily have to be executed in the direct area where the damage had been done. Participants have expressed this point with a relief seeing that direct biodiversity's enhancing measures are quite costly and with marginal improvement. Also, we noticed that our participants were optimistic in the way they expressed their perceptions about offsite biodiversity measures as such actions enable them to create more biological value with the same amount of funding. Expanding on this point, the companies often mentioned the possibility of compensation pools which are described below: "Why do we have to focus on the rivers all the time, we can work around our hydro power plants on land and do a lot there... To combat invasive species for instance and do things for some mammals, butterflies and there are a lot of measures we can do which does not affect our operations. So why don't we do that? That's also biodiversity" (INTB3).

Company D can also be classified under this category seeing that it is evaluating its damages on green areas and striving to compensate for them in other areas by means of various actions: "We look at how much we are affecting the green areas and look at how much we can increase our points in other areas by doing different actions (...). We make sure we have restored water levels in some compensation areas. By doing that, we try not to over count our effects on natural values, but we lean on our modest calculations to see how much impact we want to achieve. And then, we reach the positive gain" (INTD3).

Research-Related Actions

Interestingly, we have learned that biodiversity enhancing actions do not always have to be physical practices. In fact, BNG can take the form of research where companies can invest valuable time and funds to conduct studies and develop useful biodiversity-related knowledge. Company A, Company B, Company C and Company F were all involved in biodiversity related research. In the majority of the companies, research conducted was regarding specific biodiversity enhancing solutions. These included enabling a greater fish health in fish migration around hydropower plants and whether it is possible to move an ecosystem in a fallen tree log and integrate it in another area. INTF3 was quite explicit in this perspective and told us: "[Being proactive in biodiversity] is mainly connected to the research that we do, that we have research public staff which we have ongoing for years to get really good knowledge base for what we do or for the impact or to work to find a solution in example of hydro power. Some power plants will be going into permit processing 2040, we recently built a whole new research facility in our lab where it is a really unique facility in both scales in what we can do and to find a solution

that could be good for both the energy production and biodiversity”. At large, this research, aside from its contribution to having better biodiversity solutions, also enables product innovation and increases brand value. These two, together, isolate and increase the profits through quicker permitting processes and a better pool of employees. Another type of research is one that would indirectly increase biodiversity such as the carbon capture research done by Company C. Through capturing large amount of carbon dioxide in its hydropower plants, there would be more profit for the company’s environmental fund Also, the reduction in released carbon would mitigate the loss of biodiversity. Engaging with BNG as a research practice can generate a new type of profit stream through innovation. A third category of research is the strategic work with biodiversity, such as Company A’s research on how biodiversity can be measured (INTA3).

Biodiversity is, therefore, viewed as a field with much room for innovations “No research has been done within that field. There is a really big interest from media, shareholders and others.” (INTA3). These innovations, however, are not necessarily viewed by the companies as possibilities for new product innovations. It is rather external actors that will be enable them to profit from these product innovations. “[Fish health improvements] was also a great interest internationally when we built this” (INTC3).

Dedicated Units Working with Biodiversity

Dedicated units refer to forming special division of people that centrally focus on developing the work of biodiversity on the part of the company. In this context, Company C’s environmental fund was created “with a main objective to develop biodiversity” (INTC3). Units consist of “academics from different fields, many of them within the natural and environmental sciences” who meet regularly. Funds were financed through money that is offset each year from Company C. The business itself works according to the SDGs and the legal requirements. It was expressed by INTC3 that it is not always sufficient to meet the legal requirements but rather necessary to meet the acceptance of the stakeholders involved in order to be able to employ a project. Funds can help finance projects that will ease that dialogue: “Our statutes in the environmental fund also say exactly that the funding can only go to things that are additional to legislation” (INTC3). The fund is only open for internal applications for projects that proactively work with biodiversity in order to ease the dialogue with stakeholders. The fund looks cross-sectional at the company’s current projects and with this holistic view, it evaluates how it can have a systemic impact so that as much positive impact can be gained with the funding. The benefit of this approach was expressed by INTC3 by saying: “I think it is in many companies that these biodiversity issues are so complex that you do not fix it, that you do not have that educational qualification and that you do not have that experience, which we also realized. And that's why we started up this environmental fund, in order to get a much broader view of the issues.”

In Company A, INTA3 explained to us that they worked full time with biodiversity issues and stakeholder dialogue to deal with biodiversity concern and aim for a net gain goal. In other companies, biodiversity is not organizationally dealt with but rather embedded as a part of the more encompassing environmental work. As mentioned in the previous section, some companies have separately developed research department to overcome the challenge of biodiversity’s lack of knowledge. For instance, Company F has hired staff in the research area to scientifically explore biodiversity and develop a solution to benefit both biodiversity and their hydro power business.

Cooperation-Related Actions

One company, as our participant INTC3 explained, has strived to establish collaborations with other businesses as it engaged with BNG's initiatives. For instance, Company C believed that one way to be able to finance the required biodiversity practices was to use biodiversity as, what we referred to as a unique selling point. In this, INTC3 expressed: "I also think that much of this [the biodiversity loss], we will not be able to cope with ourselves, but then we must create these incentives, these alliances with different types of organizations. To succeed in creating this diversity, we have to ally ourselves with other product developers in other niches to fix this." Company C had, through its funds, financed extensive voluntary biodiversity enhancing projects in one of the local rivers where they currently had three powerplants. The energy from these hydropower plants with "high proportion of biodiversity" was used in the negotiations with a world leading transportation company. The purpose was to convince them about employing the first test platform for the transportation of its electrical buses in Sweden. In this framework, INTC3 told us: "We would never get through this unless [the transportation company] had seen the idea about having six buses in [the local city] that roll on a renewable electricity, locally produced with a high proportion of biodiversity. We have taught them that. I've had them on a visit. I've had [the transportation company's] management here to show. They have been on fiskdata.se and have seen the fish ways".

Business Model-Related Actions

Taking part of biodiversity enhancing activities also means to engrain NNL and net gain goals in companies' business model. This requires them to bring slight changes on their business strategies to align them with their biodiversity objectives. In this respect, participants INTE3, INTF3, INTG3 and INTD3 confirmed these rooting biodiversity enhancing measures in their business model. Company E was the company with the clearest example of biodiversity being a part of its business model through the creation of the 'tool box' (biodiversity-related tool). Herein, farmers are paid more for their crop production depending on how many of these tools (advice) they employ. The employment of those tools enhances biodiversity of the agricultural practices. In this, INTE3 enlightened us on the use of the tool box as it offers advice to be utilized by farmers to help add to biodiversity: "We have these tools (tool box) and a lot of others on biodiversity ranging from putting flowers seeds within the fields. It could be when you plant a lace, grass the areas, have species mixed up with plants or you can do habitats for butterflies, bees, other kinds of pollinators, insects and measures for biodiversity."

Mitigation Banking-Related Actions

A quite growing practice in bringing BNG under business nowadays is mitigation banking. In essence, the idea consists in selling credit points of restored lands to future companies that have engendered negative damages to their project's sites. By buying these credit points of restored lands, companies are redeeming for the value of damaged sites they have operated on. Company A and Company C are both looking into restoring extra habitats both in and around the areas where the companies are geographically present. This service and these habitats are then sold to other companies that need to offset their negative impact on biodiversity. Both companies deem this to become a new market very soon as it is internationally growing, and since the Swedish government's remittance is suggesting trials for compensation pools. INTC3 did, however, express a disappointment about the low ambition of the remittance in regard to compensation pools: "At the moment the industry is the lead in this.". Another example in this regard is Company A when she/he stated: "My thinking is to actually start a bank of my own, actually to push the system, to show them [the government]".

Politically-Related Actions

Finally, aiming to increase biodiversity can also mean creating a systemic change. In this, companies attempt to be a leading example as expressed by INTA3 and INTB3. Also, it means creating advocacy such as exemplified in Company B's efforts to affect the policy concerning emission's rights to make renewable energy sources more profitable than non-renewable energy: "What is also important in Company B is, of course, to try to politically influence what the way forward is on emission rights and that they were too cheap. The most profitable energy source was coal because it was more or less free to emit CO₂. So, that has been a large influence politically on EU level, in Sweden and Finland". INTC3 also aired frustration concerning politics in this regard: "Now I've ventured into politics because it is the policy that governs these conditions and the policy is not the fastest when it comes to biodiversity".

Framework Employed

As we have encountered earlier in the theoretical chapter, mitigation hierarchy is often deemed the main framework to incorporate NNL and BNG strategies. Under this part, we asked our participants about the type of framework they follow in their work with NNL and BNG goals to determine if our in practice-answers are in line with our theoretical findings. Four participants (INTA4, INTD4, INTF4 and INTG4) confirmed that mitigation hierarchy is/will be used in moving forward toward nullifying their negative biodiversity impacts and eventually achieving a net gain. against this background, INTG4 overtly answered us by saying: "Hopefully we will, I hope it will be clear for everyone what we need to do. I am not the one making the decision, mitigation hierarchy is absolutely something we want to apply and that's why we have aspects to help us with it". In support to this statement, INTD4 also stated that mitigation hierarchy is being applied to strive towards net gain goal. INTA4 revealed the newness of these concepts and how the mitigation hierarchy is especially useful in permitting processes as a presentation of the compensation plan: "So if you involve some type of protective species you have to have a good plan for that but also do this type of actions to compensate. This is quite new. This is actually one of my first projects in the permitting process where we actually did compensation and actually worked professionally according to the mitigation hierarchy." INTA4 also displayed how Company A has animated a version of the Mitigation Hierarchy which is published in their sustainability report. INTC4 acknowledged that Company C was aware of the mitigation hierarchy, but that "they are not there yet to be able to avoid [the first step]. In the projects that are up to discussion now we aren't doing step 1, but step 2, 3 and 4, yes."

In continuation with this question, we additionally asked the interviewees if companies are using any tool to enable them to quantify the so far positive progress in working with their biodiversity strategy. In this regard, one participant informed us that her/his company had tried before to measure both losses and gains engendered. However, one lingering challenge is associated with lack of practical knowledge about biodiversity conservation practices. In this, INTF4 stated that: "The compensation is discussed in projects but when it comes to be a firm requirement, we don't have any familiar cases so far. But there is always a discussion when it comes to mitigation hierarchy and biodiversity offsetting, and the difference between mitigation measures and compensation measures is not very crystal clear." INTA4 expressed that they are investing funds into the development of measuring methods, as INTA4, in line with the other respondents lacked proper measurements: "and as long as we don't have any good system to actually measure, I don't feel confident saying that we have net positive impact. And that is in the moment one of our main focuses, to establish a system which enables us to measure [the impact and progress]" (INTA4). INTB4's answer: "there is of course public consultation before we do this investment so hopefully these issues are handled, but I would say that it's not in our

investment process that we ought to consider the corporate biodiversity manual... I'm glad you asked the question about no net loss in investments, I will gladly raise that issues within our environmental team after this interview" show a discrepancy between strategy and processes."

Other frameworks alluded to were reporting standards which guide goal setting such as GRI (INTC4 and INTA4) and ISO14001 (INTC). The SDGs were also pointed to as guiding principles: "Taking the UN's global goals e.g. and breaking down them into eight own goals that correspond to the global goals, they are then, in turn, degraded in the regional goals and then they are broken down into the local goals. So, it's a few steps down there" (INTC4).

INTA4 was unique in mentioning the Natural Capital Protocol (NCP) as a framework which Company A will employ in 2019 as their main decision model in the coming years: "NCP is a developed system to actually weigh in all the different types of consequences like metals to water, metals to air carbon dioxide, and put into a measurable box. And actually, put money on it, and be able to bring it into business cases. In order to decide: 'are we going to build that plant or that plant'. So that is not something we do in the moment, but we are in the progress of that and hopefully Ecogain will help us with the Biodiversity part of this" (INTA4).

5.2.2. Stakeholders Influencing Biodiversity Practices

Under this part, we aimed to establish a satisfactory answer concerning the stakeholders who play a major role on the companies' part to strive towards net gain goal. In this, we could say that we received more or less similar responses.

In this context, we have noticed the numerous times Non-Governmental Organizations (NGO's) were listed by our participants as one of their key stakeholders. For example, INTB5 explained the pressure they have felt both internally and externally underlining NGO's: "I would say there has been pressure from both the environmentalists in the company but also from the outside, of course, and also from the business side and also from NGOs: lots of pressure. So, I would say the sustainability thinking has evolved and awareness has increased, and now we have a good system, but it has taken quite a long time". Company F on the other hand, seemed more in harmony with NGO's, where INTF5 explicated the central role the latter play, especially in facilitating the licence's obtainment: "NGOs are important. It is a matter of licence to operate, it is important to have local acceptance where we operate and in the wind operations, that's a long process of digging and that's a lot of stakeholders (...) and here we want to work closely with society and local NGOs and bird associations, fish organizations, find solutions together and get local acceptance for the projects." (INTF5). In agreement with this, while INTE5 equally revealed the importance of the 'public side of municipality', INTG5 explained the significant, yet, indirect influence of NGO's on the business: "We haven't had this problem [pressure from NGO's], but I imagine it would be a problem in the future. But if we show them [NGO's] what we are doing and what we plan to do and if we communicate then I think we will be able to do it." Likewise, INTD5 mentioned how mining industry could be tricky and quite harmful in terms of biodiversity loss. NGO's interference with their business helped keep a weather eye on them: "I think biodiversity in itself is quite a big question and mining is a big impact on biodiversity losses So, we have NGO's, we have Swedish Society for Nature Conservation (*Sw.: Naturskyddsföreningen*); our big watch of course. But also, our Sami population who have used the lands for ever, and they also want to be handled with care. So, we talk about all our compensatory actions with them as well, so we ensure that we don't disturb reindeers hurdling" (INTD5).

On the legal side, authorities were a less common answer from participants compared with NGOs. Few interviewees (INTF5, INTD5) have listed legal requirements and government within their biodiversity work. Exceptionally, INTF5 seemed more tangled with legislations, and throughout the different parts of the interview, authorities and legal requirement were often mentioned: “Authorities that are involved in the legal process and the permit processes are very important stakeholders”. Herein, the same participant has again indicated the engagement of authorities under previous parts about how they work with biodiversity strategies: “The things that we do and the questions that arise are quite a lot connected to permitted processes, legal requirement that we get from the 40 conditions for having a permit, or of course if we see proactive work because we know which biodiversity strategies are essential for building power plants and working proactively and strategically with those issues.” (INTF5). Against this background, Company D seemed also in communication with authorities when it plans to compensate for biodiversity. INTD5 expressed the following statement when we asked her/him about the key stakeholders: “We talk about all our compensatory actions, so we make sure we don’t disturb reindeers hurdling and then of course, the government; it has environmental goals, the legislations and the company”.

Other participants have stated other sets of interesting stakeholders that others have not mentioned. This could be, again, justified by the different industries or maybe the size of the companies operating. For example, INTE5 specified six main stakeholders that are involved with the implementation of biodiversity strategy: “Definitely farmers, customers, retailers” along with suppliers, producers and the public side of municipality. INTE5 delved further into this point and explained how Company E is working with its stakeholders to make sure its business is in line with biodiversity net gain goal: “we try to be as close to our producers as possible. In 2003, we became a brand more or less as we got questions from Coop who called us and asked if we could help them turn the health shelf (...) which contained only yellow bags from one supplier, and they said if we could find organic products that would math these yellow bags then they would throw them out of all the Coop stores and put in our products instead”. INTA5 had a similar view when she/he told us: “We evaluate, both our customers and our suppliers. Which means that one of my colleges actually was in Congo last week to evaluate a supplier there... So, we have to make sure that the whole chain is sustainable and that’s not only us, it’s our customers also”. INTF5 on another note, stated that local societies and investors are of relevant support for them. The influence of the local community and the politicians in the municipality was confirmed by INTC5: “There are three councils and they are a damn creative little crowd you should know”. In this respect and aside from the great involvement of NGOs with their biodiversity strategy, INTG5 also highlighted the considerable role of investors. She/he affirmed the indispensable support they need to acquire from the financiers to help them attain the company’s net gain goal: “In order to happen, it [net gain] needs our financiers: The bankers where we get the money. They always say this is not their thing, but I always say this is definitely your thing. If you invest and change things that are good for society and biodiversity, things will be good for society and I think they are starting to change a bit more. But I think if they don’t say yes, we cannot invest. The bankers need to be on our side”.

Minorities were also seen as a major stakeholder in the companies being active in the lands where those minorities were present. INTA5 and INTC5 both mentioned the Sami population as a strong influencer together with other local interest groups such anglers. INTC5, here, explained to us that: “external stakeholders say, ‘you actually do not do what you say you do’. And it has been quite a difficult balancing act at many times. Because we get criticism because we have the production we have. We go in and build wind power on low mountains, we compete with minorities, it affects reindeer husbandry issues” (INTC5).

INTA5 was unique in mentioning the future society as a stakeholder: “Everyone is the stakeholder, future land user. That’s why we do these different types of stakeholder dialogue. We took the young kids out planting trees on one site. They are the ones who actually are going to live with this, all the industrial areas for decades after us. So, they are extremely important to make sure that it works with them. At least to get an understanding and involvement in what we do. If they understand that ‘well okay, back in the 2020s they didn’t know better, but at least they asked us’”. INTA5 connected it with the interest groups when she/he told us: “We have these interest groups with special bird life groups who wants to help us to improve these areas in order to make it more attractive after operations”. The responsibility of the long-term maintenance of these biodiversity enhancing efforts itself is viewed as a stakeholder.

5.2.3. Voluntary Drivers Related Questions

Tightly connected to the implemented BNG strategy are the drivers that encouraged the companies to voluntarily try to counterbalance their biodiversity negative impacts in the least bit (NNL) and ultimately strive for a net gain goal. From this perspective, we asked the companies in the first part of this section to broadly and freely elaborate on their individual voluntary drivers. Afterwards, we use the suggested list of drivers from our model to add and confirm other potential drivers that participants perhaps did not think of.

General Drivers

For the majority of the participants, striving to achieve net gain goal was completely voluntary. Few of them (INTB6) expressed the pressure they felt from the part of NGOs to go biodiversity-friendly. Others such as Company F and Company D explained how aligning with biodiversity strategies’ goals was entangled with authorities and legal requirements to access lands and operating permits. In general, the majority of businesses still continued to increase biodiversity even after having faced these challenges. In that regard, INTD6 clarified: “Net Gain is voluntary, I think we put higher demand on ourselves. I think the demand we put on ourselves is higher than what the other would have”. In similar manner, INTF6 deliberately elaborated on how her/his company is being ‘proactive’: “That [being proactive] is mainly connected to the research that we do, that we have research and the public staff that we have ongoing for years to get really good knowledge base for what we do for the impact (...). We recently built a whole new research facility in our lab where it is a really unique facility in both scales; in what we can do and to find a solution that could be good for both the energy production and biodiversity”. On another interview with Company E, INTE6 mentioned how they are trying to embolden the farmers they work with to equally line up with BNG’s goal through the use of their biodiversity strategy (tool box): “We are encouraging the farmers to increase biodiversity via the tool box, we ask them if they can break down these large fields of grains in several smaller parts and that would be gain for biodiversity. We have other measures to actually increase biodiversity but not many partners are interested in that”.

As we inquired into the voluntary drivers’ topic and asked participants to largely elaborate on what they believed the key drivers are, all of them were open to our questions and tried to give us abundant information. In essence, what has become visible to us, throughout the interviews, is that meeting stakeholders’ expectations was the most recurrent answer. We, indeed, have received diverse drivers, but it seemed obvious that both internal and external stakeholders such as employees, customers and legislators played a major part in encouraging these companies to align with Net Gain objective. In this, INTF6 described how showing customers their positive work with biodiversity, in spite of not being a requirement, is important to gain the public

support and acceptance: “I would say it would be the customers side. Not really a requirement from a customer, but we can see when we do explain to our customers what we do, there is a lot of positive reactions (...). It is appreciated, and I think we could have good dialogue with our customers to have a response on biodiversity, so that’s a driver for voluntary initiatives”. Still, customers are not the only stakeholders that companies are attempting to gain their accord. Authorities and legislators, on another note, also interweave with companies’ motivations to engage with net gain practices. Some aligned with BNG’s goal to ensure smoother permit procedures, avoid future hustle and pressure from nature-conservation organizations and help keep the business moving forward. An example of that is what INTD6 told us: “You have to ensure that you have social acceptance (...) I mean legislators, permit givers and people who want to come work with us. If we don’t have their trust, that we are doing our best, then it will be hard for us to continue our business, especially that what we do is very visible. So, we have to do it as good as possible and we have to be able to explain why. Also, the legal perspective could be a driver for voluntary initiatives”. In line with this, internal stakeholders, particularly the interests of employees, have also been marked as a significant driver for some companies. In this, INTF6 emphasized employees’ role and tried to summarize how Company F’s BNG initiatives are compelled by their workforces who are into biodiversity positive impact and support it: “Having engaged people could lead to initiatives and I think if you have management to do this kind of projects, they could be done if you have the engaged employees (...) For example, we have worked in Berlin with bee biodiversity. Since Berlin is a city with quite a lot of lack of green spaces, we have landed out space connected to power plants for bee keepers and we have lots of locations to come like biodiversity and pollination services (...). We also have established further gardens so people can relax and there are voluntary initiatives to build greener Berlin. These initiatives are driven by the interest of employees that really like the bee keeping and those kinds of initiatives”.

Drivers could equally originate from the companies’ willingness to be voluntarily responsible and be part of the solution instead of the problem. They could be aware of this dilemma and acknowledge the negative impacts they engendered to the environment. Herein, INTB6 told us “You need to have a split vision... We can do things, because there is an absolute need of hydropower, but we also have to accept impacts on biodiversity.” In this connection, some participants argued on their companies’ efforts to side with the environmental crisis by saying: “I would say the drivers are to handle the climate crisis. I would say that has been of a big help the draught and the fires in 2018 with the heat. I would say it got so much higher on the agenda both for us in the company and the media by reporting about that. And I would say legislations will always be slow. So, companies need to be show what is possible to do” (INTG6). Another participant has pinpointed to the vitality of actively being biodiversity-positive because it is becoming the only way to do business in the mining sector: “We want to be responsible for what we impact. So, if we impact something, we want to be responsible for minimizing, avoiding and restoring that impact. It is becoming more and more the only way to do business in this part of the world, you have so many items that you have to be responsible for” (INTD6).

Dissimilar to the previous answers, other companies had more economic motivations that explain their eagerness to implement BNG strategy. This is highly linked to what INTE6 hinted to on sustainability and profitability being the winning combo: “Company E is mainly owned by foundations. The people behind these foundations have defined the vision or why they have Company E is actually to have sustainability and profitability. Profitability through sustainability. some owners found that you have to be sustainable but also you have to be profitable”. When exploring additional drivers through the interviews, we captured another answer that could be connected with economic drivers. INTG6 pointed out: “Cost reduction

will be better and If we can show that it [BNG goal] will not cost any money, not initially, but in 5 years, then it will pay off so much”. In this situation, it might be important to indicate to how Company’s driver to reduce costs could be also mixed up with their motivation to fulfil stakeholders’ expectations when INTG6 told us: “Of course, that [cost reduction] will be better and make it easier for us to go ahead, then the numbers come in. If we can show them [stakeholders] the numbers, then it will make it easier for us”.

INTC6 was exclusive in disclosing a holistic view of biodiversity and its importance for the future when mentioning the health and wellbeing of the future society to be a driver. It was viewed both as a moral driver, but also indicating an emerging future demand and hence the strategic goal of Company C: “The cities are growing. We also know that by 2030, when it comes to construction, we will extinguish even more of these oases. So, in the whole of this picture one can say that the next step is not only to safeguard the customer in their energy use but also to deliver a social value that also has an imprint on the health aspect. So, people who are in the urban area, gradually... you feel bad, you feel worse, you don't get this with fresh air, see white snow, and so on. You must therefore be able to deliver this kind of reality to people. Because indirectly, it also creates healthy economy. Less sick people, healthier kids and all of this. So, I think that for [Company C] these are the questions that will be the big questions”. Here INTC6 interweaves many different trends regarding what is speeding up the loss of biodiversity but also what the societal implications will be. With the last sentence, INTC6 emphasized the future strategic importance of these questions.

Listed Drivers

At the core, when we asked our interviewees about their individual voluntary drivers, we initially used a vague question essentially to collect as much wide-ranging answers as possible. We did not want to restrict their replies only to the drivers under the model we use. More importantly, we tried to avoid giving them insights on what could be a driver. After establishing a rigorous and solid base on the companies’ own motivations, we used our suggested list of drivers from the theoretical chapter. In the following section, we present our findings according to this list.

Cost and Cost Reduction

Embarking upon *costs and cost reduction*, we asked our participants if their company’s motivations involved reducing its production, legislation or operations’ costs. At this level, we received contradicting answers. Some participants (INTE7 and INTD7) negated the existence of such driver and explained how working with biodiversity strategies and aiming to achieve net gain is fairly expensive. They also described how unlikely it is to be able to decrease costs while actively contributing to biodiversity. Likewise, they elaborated on how it is something to eventually hope for during the length of such process, since costs’ reduction can make it easier for them to work with biodiversity and use the extra cash to invest in more positive impacts. In this context, INTD7 told us: “No. Net Gain is expensive. So, I would say no to that, especially here in Sweden, we have high values and it is hard to get back from that”. INTE7 also supported this negating reply and added: “Not really [about cost reduction being a driver], but I guess the driver would be to have decent profits on what you are doing and to be actually investing in more measures or educate the farmers or in that sense. It is better to reduce costs in other parts of the company to be able to have bigger profits so you can do more good things”.

Contrariwise, we had other participants (INTB7, INTF7 and INTG7) who acknowledged cost reduction as among their drivers. In this case, companies told us that there are several types of costs reduction they aspire to achieve such as minimizing the processing time of permits. And

because doing so is often connected to their investments, the longer licensing period companies have to wait, the more expensive obstacles they are likely to face. Thereafter, explicitly engaging with BNG strategy and striving towards Net Gain goal could save them the time hustle and eventually help them avoid the unnecessary costs. Against this background, INTF7 stated: “In the sense of cutting the time, processing I would say yes. Because the permitting obstacles costs money in general and it is risk for our investments. So, we can improve performance in different ways that you get smoother permit processing”. Additionally, INTG7 elaborated on how attracting stakeholders’ attention and gaining their support and acceptance can reduce costs. INTB7 in addition to INTG7, stated “Yes, absolutely. Because of course, we want to be a credible and trustworthy company and if some years ago, something was written about Company B. It was more or less always negative. And I would say that that has changed now, but now the criticism has more or less vanished I would say in media”. INTA7 agreed with INTE7 and INTD7 in that “I don’t think I could be honest and say that it is that at the moment”. However, as a contrast to INTE7 and INTD7, INTA7 still had a different view of the future: “But hopefully in the future. That’s what we are striving for. To be able to make the best possible business case. But we are not there. It is not a good enough argument yet”. The lack of the possibility of valuation was raised as a hinder by INTC7: “It will become that the day you can have it valued. And bring in money for your habitat because someone wants compensation.” However, INTC7 changed her/his answer after giving it some thought: “Or, well, long-term. Yes, in the long run yes.”. This indicates that the interviewees might give different answers dependent on what time-horizons they have.

Risk and Risk Reduction

Moving forward with our list, we afterwards asked participants if their motivation involved alleviating the *costs of anticipated risks* that usually follow companies which do not implement biodiversity strategies. Interestingly, all interviewees positively confirmed this as a driver even though the nature of their risks contrasted. According to the experience of our participants, one highly anticipated risk in working with biodiversity strategies is acquiring the approval of legislators and permit issuers. INTA7 explained it when asked if the cost of anticipated risks has been a driver: “Absolutely. We have been operating mines here in 100 years and we want to do that in 100 more years. To be able do that, we have to be extremely professional. We would not get new permits unless we are very professional in regard to [biodiversity]”. It appears that working with environmental issues is tricky and might be even thornier when the companies are in the mining or energy production business. They can be trying to evade customers’ and other stakeholders’ criticism or the risks of ruining their chances to obtain operating permits. INTF7 which specializes in energy production and hydro power told us: “I mean if you look at chemicals, there is a risk of leakage of oil, so chemicals would be impacting biodiversity and soil. It is very important (...) We are obliged to minimize the risk connected to biodiversity (...) and the risk of not getting the permit”. In similar manner, two more participants (INTA7 and INTD7) supported this point on the hardships to acquire permits and further elaborated on how they are trying to find smoother ways to cooperate with Sami people to win over their acceptance: “Definitely, absolutely. I think if we hadn’t worked with these questions, permits would be harder to acquire, we would have much harder time cooperating with the Sami and I think it helps us in that” (INTA7). When it comes to Company G, INTG7 has informed us in an earlier part of the interview that their company is about to initiate the implementation of BNG strategy in the upcoming weeks. In this situation, INTG7 told us the following: “We talk risk a lot in the company so, I think it will be a driver when we talk about a risk of not being prepared for climate change and how biodiversity can actually help reduce that risk. We are actually looking into that now (...) But if we can show what biodiversity can do to help reduce the risk, then absolutely it will be a driver” (INTD7). INTC7 looked at it from

a futuristic perspective and presented an idea about future demands from stakeholders: “Yes, one may well say that it is better to occur than to perish. I will not say that it will be retroactive costs. But I'm not so sure that we will have a community where you can just leave a hole after you.” INTB7 was positive towards risk and risk reduction being a driver: “I would say from my point of view it's a driver. But if we are proactive, if we do this, then it will be easier to get the permission to increase efficiency.” INTE7, in the organic food industry agreed that biodiversity is an opportunity to reduce risk by saying: “I guess with this last summer perspective, it could be. There are some people saying that the organic farms were coping better with the draught problem than the conventional so maybe you could say that. (...) you can say that if you go more biodiversity you build more resilience in another sense (...) The driver is that we want to be sustainable in the long run, you know there is no business on a dead planet”.

Sales and Profit Margin

When talking about *sales and profit margin* driver, we asked participants to determine if their motivation was to earn more profits and sell more when being biodiversity-inclined than when selling ‘green’ products and services. Three out of seven participants answered yes (INTE7, INTC7 and INTA7). INTE7 previously explained how her/his company sees sustainability and profitability as a winning deal. Relating to whether biodiversity can reduce costs, INTC7 continued “It is a combo, actually. It is not yet a source of future revenue. Because you haven't got it valued. But on the other hand, you might build up a great image around this”. INTC7 previously mentioned that biodiversity could be a tool for future strategic partnerships as in the example of how they tied the local municipalities electrical busses to their hydro power with high proportion of biodiversity: “We win the customer's trust through being able to verify and strengthen the source of biodiversity which we communicate via the buses”. INTC7 hopes that such efforts result in attracting more customers in that the travellers of the buses, due to that trust, choose Company C as their energy provider for their household as she/he stated that: “the customers choose high biodiversity for their home as well”. INTC7 also saw further profit opportunities within biodiversity as: “when the heavy transportation sector becomes electrified (...), there will, in extension, exist haulage contractors running electrical heavy vehicles (...). If we can offer renewable energy with a high proportion of biodiversity and other social values, we have a competitive advantage in relation to our competitors, and the haulage contractor gains a competitive advantage towards his competitors”. According to INTA7, biodiversity already leads to a competitive advantage: “Of course. That is what our customers ask for and by extension profits”.

The rest of the participants, on the other hand, clarified that their main goal is to increase biodiversity while doing their business. It appears that companies are more voluntarily encouraging customers to engage with biodiversity and they are nurturing their interest for it not as monetary driver. This included communicating with their customers, educating them about biodiversity, their choices and the sustainable products the company is offering to meet market's demand. In this regard, INTF told us: “We have both B2B and B2C (...). We have large companies that are buying electricity from us and what they are mainly focusing on when it comes to the environment is CO₂. It is not that they have sharp requirements when it comes to biodiversity. It is just when we meet them, I would not only describe what is connected to climate but also mention biodiversity and then, I experience that there is interest from our business clients”. Additionally, INTF7 equally elaborated how their customers are deliberately becoming responsible by making their own choice of electricity based on CO₂ emission and the strategies limiting it. In line with this, INTD7 explained how earning more profits by means of BNG could be tricky and highly unlikely since prices are often set by the world bank in the case of mining business. In this framework, INTD7 told us: “We compete with companies that have

lower costs on ore and a lot of mines actually work with natural compensation. We think the market demands it [being biodiversity positive], so it is important to do it. But I don't think we get paid for it because we don't set the price". Not to have a direct contact with the end customer is also expressed as a hinderance for the energy industry. INTC7 informed how most of the profits for the energy companies do not originate from selling to private persons, but rather from selling to other companies or to the Nordic energy market 'Nord Pool': "No, Nord Pool is much like going to the bank, borrowing energy, there is no difference. But on the other hand, you can decide which currency you want, if you want green, sooty or black or whatever you want". Via Nord Pool, it is not possible to specifically request energy with high biodiversity value.

Concerning businesses in properties and real estate, INTG7 confirmed to us that sales and profits are always something to benefit from. Also, she/he stated that it is not a driver for them since the properties they build are for them to own. Hence, they cannot, particularly, make money out of aiming for net gain goal. It appears that it was the same for Company B: "We can't see that [biodiversity is connected with profitability], and that is because our operation and our business are somehow different from selling cars or shoes or whatever" (INTB7).

Reputation and Brand Value

Among all the drivers we went through so far, what all participants agreed upon was also *reputation and brand value*. In essence, such driver was within every company's field of regard and it plays a central role in gaining the publics' acceptance and support while keeping an exemplar profile in terms of its environmental practices. In a straighter way, INTE7 told us that: "it [reputation] is one of the drivers. We invented the tool box [biodiversity strategy and practice] as we wanted to support the brand". Here, as biodiversity loss is considered a new knowledge according to what many participants have described, building a good reputation through environmental practices does not appear to be enough. Companies are also communicating their biodiversity contributions since such issues could be equally significant to people. INTF7 was in line with this idea by saying: "Yes of course [reputation and brand value as a driver], not environmental in general, I suppose in biodiversity as well. And the view you have on Company F could also be based on reputation and the locals' acceptance and that biodiversity issues could be very important to people". From another perspective on reputation, INTG7 justified their motivation as to embellish their repute and market presence based on the following reasoning: "Reputation is a good thing. We are supposed to be a role model; we need to step up. So, I think that's important and I know it is important to the board". On another note, INTB7 believed that "the reputation with regards to the government but also the local stakeholders are a driver to work with biodiversity". She/he gave an example of demanding permit conditions: "It is really difficult to achieve the license to do a change in the hydropower plant, and for instance, we have in the lower [part of a big local river] a hundred-year old hydropower plant with the original turbines and it really needs to be renewed in that plant. But it is also an area with high biodiversity, a hundred of red-listed species". INTB7 further speculated that such demanding permit would have been received if the company had been even more proactive in enhancing their reputation about biodiversity efforts: "If we had been more open minded and understood the need to work with biodiversity, I think we would have gotten that license for ten years ago. But that's just my speculation." INTA7 and INTC7 were confirming that biodiversity is a reputation by simply saying: "Absolutely".

Attractiveness as Employer

We also asked participants if they had the driver to entice *a more proficient pool of employees* when they voluntarily engaged with biodiversity strategy and aimed for a net gain goal. In this

respect, the majority of companies (INTA7, INTB7, INTC7, INTD7 and INTG7) related to this driver. They described the relevance of establishing and echoing a responsible working environment in drawing the attention of skilled labour force and keeping them around: “Yes, definitely. And that is really important when there is a lack of people to employ. Yeah, I think it’s been a driver to be more attractive. And I certainly hope that young people see that and that it has an impact on them” (INTB7). They explained to us that newer generations are often a greater challenge to attract because they cherish values and would rather settle for a reliable company with accountable practices. In this connection, INTD7 told us: “Research says that the new generations are more driven by values than anything else. So, you want to work with a company that is responsible”. Echoing INTD7, INTC7 stated: “Yes, and it is really important (...) This new generation: they do not want to contribute to a worse world, you want to work with something that is on the right path”. Company C also emphasized that biodiversity is not only a driver to attract new staff as INTC7 added: “Then, of course, we have internal training for new employees, where we talk about our sustainability work within the company”.

Innovation Capability

When it comes to *innovation capability* driver, we asked the participants if their companies’ voluntary motivation was to modernise and achieve innovation competitive advantage among rivals. In this respect, what could be noticed under this question is the reluctance of some participants to answer. Some explained that it is hard to confirm innovation capability as a driver, since such thing is generally interwoven in the business’ goal to stay competitive. Broadly, we have received various answers. INTG7, for instance, negated the existence of such driver in their case. Furthermore, she/he clarified how innovation in properties and real estate, in spite of not being a common driver in striving towards Net Gain goal, it still could be the case for their competitors. In opposition to this, other participants approved innovation as their driver by saying: “Yes absolutely. I mean we want to work with this driver for the whole mining industry and we want to be the best. We are very small compared to our global competitors. I think it helps us stay on the top, but the competition is hard” (INTD7). From another point of view, INTF7 told us that it is difficult to answer such question but: “Biodiversity is so close to our licence to operate. So, we need to find a solution, we need to develop innovation and new techniques that are also good for the environment and for biodiversity species.” She/he also added on how biodiversity is highly linked to technical development and hence, it is crucial to keep the innovation wheel rolling. According to her/his statement, it seems that innovation capability driver might intertwine with stakeholders’ driver. That, some companies (INTF7 and INTB7) explained their need to innovate in order to guarantee their ability to obtain the approval of permit issuers and acquire operating license. In this connection, INTF7 stated: “We are building a lot of new things. There need to be in a relationship between the technical development and the protection of biodiversity. Otherwise, we will not have the licence to operate and the local acceptance or the permits (...) I would think in the future, it is a way to future proof our operations to constantly develop, especially for the wind operations they still quite a new business”. INTA7 identified the innovation capability of biodiversity as a driver when looking at innovation more broadly: “Well it’s not going to inspire our products. But it’s going to design our projects”. Some participants were cautious about whether innovation capability is a benefit of biodiversity rather than a driver but landed in: “I believe that we will see a lot of innovations in the future both cost efficient but also contributing/strengthening the biodiversity in the rivers (...) Of course, it must be a driver to be able to find good and cost-efficient solutions to be able to handle the biodiversity issues” (INTB7). Due to biodiversity being complex in its essence, INTC7 continued to refer to how a helicopter view of their environmental fund has helped create innovative collaborations. INTC7 also pointed to Company C now creating an innovation team which will have a sustainability responsibility:

“The new innovation team has, after all, placed a strong focus on sustainability issues, a strong focus on digitization, innovation. This is how you have the whole of this collaboration puck that I have been discussing for so many years how we get other companies into this discussion. Where we can together take all the region's conditions and boil down those up here, together with others, make good products out where we reach the many more who are out there”.

Stakeholders' Expectations

Dissimilar to what we wanted to explore in our second sub-question regarding stakeholders, we aimed, in this level, to determine the extent to which companies' goal to meet and/or exceed *stakeholders' expectations*, gain their support or reduce likelihood of scrutiny is a driver. At large, all participants had similar attitude in this regard and explained the importance of winning stakeholders' agreement and support. In this, it appears that companies are alert of stakeholders' knowledge about the critical status of biodiversity. We found considerable efforts to be made as to keep an authentic profile with stakeholders and to maintain a communication about the environmental measures taken. Doing so can accentuate that these companies are taking responsibility for what they are doing.

In this line of reasoning, INTC7 vouchered for their semi-external environmental fund as a tool to make the sustainability efforts 'scientifically substantiated': "It is also very important that it is serious. That it is scientifically substantiated as well as possible, what you want to do, so that you do not deliver anything that does not become green wash". In justification for this point, INTD7 expressed that: "Stakeholders are part of our business model. They are important when we define our goals, when we look into what is next and what is important that we work with. So, yes absolutely. They know that we impact biodiversity and it is diminishing in critical way around the globe and we take responsibility for what we impact". On the other hand, INTG7 elaborated far further in this regard and told us that it is essential to have stakeholders on ones' side. She/he also pointed out to the fact that stakeholders' pressure is not all bad as it can be valuable to keep the business moving forward. In this, INTG7 explained the following: "I think it important to have stakeholders on our side. I would say right now it is a driver. I would say the green bonds right now have been very helpful with pushing things forward (...) NGOs have been looking into this very much and what is a green bond and they have put lot of pressure on us and that's good I would say. I wasn't keen on the green bonds at first because it is a lot of work, but I have decided to see it as a driver". It was, however, made clear that the knowledge and concern regarding biodiversity differs widely between the stakeholder groups. The stakeholder group's expectations also differed between the industries. The representatives of the mining companies (INTA7 and INTD7) were alone in stating that their customers are demanding biodiversity efforts. The role of stakeholders in Company A was further accentuated by the work role of INTA7: "There has been a growing interest for it and that's why I got the opportunity to work only with stakeholder contacts and green questions during the last 3 years. That wouldn't have been possible 10 years ago". INTA7 also described how they work with stakeholders: "And the way to solve that at that time of the process is to have a really good hearing process, to invite all stakeholders and listen to them". Surprisingly, we found that in some cases (Company E), it is the company that brings the stakeholders into the pool of net gain initiatives by putting pressure through encouragement: "We are encouraging the farmers to increase biodiversity via the tool box, we ask them if they can break down these large fields of grains in several smaller parts and that would be gain for biodiversity. We have other measures to actually increase biodiversity but not many partners are interested in that" (INTE7).

For the energy companies (INTB7, INTC7 and INTF7) the customers pressure was almost non-existent. The challenge, nonetheless, was to communicate the extra value of biodiversity-rich

energy both to households and to customers: “And I would like to say that the difficult communication here is to make communication of it” (INTC7). As presented in the previous section about stakeholders, the most prominent stakeholders differed, even if local interest groups and NGOs were prominent in all the companies. They were found to have strong expectations that companies strive to always meet. The expectations of these stakeholders, in particular, were found to exceed the legal requirements with regards to biodiversity: “And sometimes this is not enough either because you get a verdict, that is, the highest legal instance in Sweden says something about this. It is not enough for you as a company, it is purely legal, but how do you implement this project and how can you have this communication, for you should know, it is A and O” (INTC7).

5.2.4. Implications

A central topic when talking about biodiversity work and specifically BNG strategy, is the various implications that ensue its implementation. As noted above, aiming to increase biodiversity and achieving a Net Gain is a slow-moving and a long-running process. In such circumstances, companies are likely to encounter both positive and negative events. For this reason, we dedicated, at the end of our interviews, to ask our participants about the various opportunities, risks and challenges they have experienced so far, or the ones they expect to sustain in the upcoming years. Once more, it is important to indicate that within this part, we aim to answer our last sub-question in reference to expected BNG implications as these answers might reveal new drivers for readers of this report.

Opportunities

The majority of participants found this question rather hard to answer seeing that most of their companies are still in the beginning of their journey to achieve NNL goal and eventually net gain. At large, participants offered us various answers, each depending on the progress done and the industry involved. Starting with positive outcomes, participants commonly stressed the value of gaining their stakeholders’ appreciation and safeguarding their support. Throughout the interviews, those stakeholders have differed according to each participant. INTE8, specifically highlighted the earned appreciation from the part of customers. She/he equally expressed how working to increase biodiversity was accredited in their case. For two years, Company E has been considered as the most sustainable brand in Sweden. In the interview with INTF8, we were offered a broader answer in this regard and pointed to other stakeholders: “Working with such decision [biodiversity strategy] has a lot of benefits in many ways; in the project’s realization, in the authorities and in the dialogues with local stakeholders to get acceptance in local community”. INTD8 was more inclined towards the credibility that her/his company is likely to achieve by engaging with BNG strategy: “I think we want to take credibility at what we do in our work. It is very good to be able to point to it in everything we do and make sure it gives us credibility”. Alternatively, and in harmony with what INTG8 has earlier explained about the company’s driver to reduce its operating costs, we were informed that Company G is likely to experience a lot of opportunities as a result of connecting its work to climate crisis. One benefit would be their ability to produce more and save money. INTF8 held a more neutral answer to this question. Interestingly, she/he described to us how using climate adaptations under their business strategy does not necessarily result in challenges. The same participant told us that combining climate strategies with ecosystem services is one way to inherit more opportunities than risks. INTF8 further explained how their business needs to bring up environmental topic more often into future discussions and find other ways to increase biodiversity. INTA8 had a clearer understanding of how biodiversity could contribute to the future of the company: “If we manage with this NCP, I hope we will take smarter business

decisions. Economically smarter. To actually evaluate all things, not on the technical details but on those other things that influences the decisions, both on the short term and the long-term”.

Other companies such as Company C has come farther with its biodiversity efforts in working towards BNG. The main tool as presented earlier is their environmental fund. The implications described by INTC8 which followed the launch give an insight in how biodiversity actions can be received “When the fund was launched, there were some resistance and worries in the organisation about what the fund would do. Employees were afraid of it venturing into its territory. This dropped off as time went on. Within the fund, they created a clear structure which they didn’t communicate to the company. They learned how to implement and communicate the projects in a way that was receivable by... you get to portion it out a little bit at a time”.

What helped to finalize the internal acceptance of Company C’s environmental fund was the previously described project at the local river. Company C operates on three hydro power plants and has done excessive measures to increase biodiversity. It has funded it all through allocating that energy to the partnership with the multinational transportation company and their test platform for electrical buses: “what has solved it in total now is this [name of the river] project, where you can see the whole process and its success” (INTC8). Another benefit was the perceived increase of employees’ morale through the direct positive feedback from the local biodiversity. Company C had put up a camera in one of their fish ways around the turbines which it uses to show it in the company and to customers as to explain biodiversity projects. In this regard, INTC8 added: “And then it is good because we love bees and butterflies and the fish returning back. It is fascinating how nature responds. Directly. It's like turning a switch. You don't think it's true. How the hell does genetics work? These chars, the hares, the trout that have not been able to walk for 100 years, they are out in the lake as soon as it is opened and they feel a little flowing water, the indicator immediately turns on: to wander upstream. It is absolutely incredible”. That an ambitious biodiversity strategy contributes to increased working morale was further emphasized by INTA8 who also pointed to how biodiversity seems to be effective in influencing the local community: “No, it’s fun! My colleagues think it’s fun. You work better, harder, in every way to feel that we do good things. And it’s much more fun to go to the grocery store and someone is mentioning that you have a really good project there. And when you meet the Saami ‘I really look forward to see if you manage to rehabilitate’. In that way and this on TV last week, we had this chairman of the Same village and he was really positive about traffic impact reducing systems that we are testing here”.

Building internal organizational trust and resilience was also described as an opportunity: “Above all, when we also have our controversial projects up, I should not say that everything is liked that what we do. It's a damn hello on some things. But then to be able to safeguard our staff in the questions, that we are in fact standing for really high values” (INTC8).

Uniquely mentioned by INTG8 was Company G’s plans to use biodiversity to cool and protect the company’s buildings in the future: “We also discuss how we can work with biodiversity close to the buildings in sort of keeping the indoor temperature down ... Which means it will be so much drier, it will be heavier rain with cold and extreme weather. How we work biodiversity close to our buildings helps to have a good indoor temperature”. Hence biodiversity could in this way be used to lower long-term costs (cooling of buildings) and mitigate long-term risk (damage of buildings or inhospitable indoor environment).

Risks and Restrictions

Vis-à-vis the engendered risks and challenges, participants expressed different views. Against this background, INTD9 continued elaborating on the credibility benefit and explained to us that one risk is that such credibility could not be gained if the company does not deliver the promised biodiversity goal. INTD9 further added that such risk would always be lingering since Net Gain is highly ambitious and not an easy objective to fulfil.

Other participants seemed more sceptical about the future implications, particularly Company G, as it is on the verge implementing a BNG strategy. Thus, uncertainty constitutes a major restriction for this business. Herein, INTG9 told us: “I don’t know.... when this strategy [BNG] is finished, we don’t know how [the company] is going to welcome it and what it is going to lead to”. In addition to ambiguity restriction, INTG9 equally pointed out to an endured issue at the level of some specific stakeholders. She/he described how the latter had often appreciated the matter of biodiversity loss but lacked interest when it came to incorporate Net Gain strategy under their agenda. In this vein, INTG9 stated: “People think biodiversity is interesting when you talk about it and about the problem [biodiversity loss]. But this is not the main thing they need to do for the company. (...) This cannot be on the top of the agenda and they don’t think of this as something they need to do”. Another hardship that INTG9 informed us about is associated with the business’ challenge to align its main task with BNG goal: “I think this strategy might clash with what our main assignment is and how to make part of the remaining assignment, that is going to be a challenge”. In relation to energy production, INTF9 briefed us about the latest regulations in the latter industry which concerned the issuance of new operating permits for both current and new projects. In this framework, our interviewee explained to us her/his company’s future plan to build more power plants which could, consequently, prolong the processing procedure because every permit needs to be reconditioned. In essence, we could capture INTF9’s explanation in the following statement: “There are risks when it comes to hydropower that need to be done, but as I said there are so many different power plants and there are going to be new permit processes. So, it will take a long time. It could be a risk that the projects that are being done for the environment would wait for the process and that’s a challenge how you could still go on with good environmental initiatives, projects, and have them included later in the permit processes.” INTA9 further emphasized the lack of frameworks as a challenge “There has of course been a lot of challenges, mostly due to lack of experience, both from our side and also the authorities, and the environmental courts when it comes to doing these compensation projects. How to do it, what is good enough, how do you manage and how do you measure, they are really a lot of challenges I would say, so.”

The complexity of biodiversity was through some interviewee’s testimonials formulated as not only being troublesome to communicate upwards in the organisation, but also horizontally. INTC9 experienced restrictions in the ability to use the business opportunities within biodiversity due to the lack of understanding in other departments of the company: “Time to wake up. Understand what type of platform you have now. Are you interested? Are you not interested? (..) When you cook this [voluntary biodiversity practice] down to become a project, you have to try to shake life in these communicators and say ‘Do something about this. Do you see the question at all?’ And they do sometimes and sometimes not. And then you have to put them on the school bench and go through a little more about knowledge behind, so that they can understand what is important to get out with” (INTC9). The hindrance to get biodiversity to spread to other parts of the organization was echoed by INTB9 “I would say that there is nothing negative with working with biodiversity, I just see upside with working with that within the company. But of course, I wish that more people would adopt the thinking, especially in investment projects and to understand the importance”.

6. Analysis and Discussion

The purpose of this chapter is to analyse our empirical findings and discuss them. In accomplishing this, we reach back to the results of our collected secondary data and combine them together with our interviews' findings. Basing on the grounds of our theoretical chapter, we present our analysis and discussion. We have chosen to organize our analysis according to the same order of our sub-questions and research questions. We first start with revising the definition of BNG's concept according to how our participant companies are implementing it and working towards net gain goal. Afterwards, we move on to analysing and encapsulating the main stakeholders that influence the implementation of BNG strategy and net gain goal. In the third section, we continue with analysing BNG's implications. Here, we connect our theoretical findings on NNL's positive and negative outcomes and compare them with our interview's findings. The goal in doing that is to capture and validate the most probable opportunities, risks and restrictions in striving to attain net gain goal. Finally, we analyse the voluntary drivers of BNG strategy and use them to deduce the voluntary behaviour of our participant companies.

6.1. BNG Strategy

In view of the manifold findings gathered during our research, we decided in this section to follow the order of our three sub-questions from the introductory chapter to ensure better coherence of interpretations. Under the first sub-question, we start discussing the current BNG position of each company. Based on our secondary data, we construct a BNG progress continuum to show the advancement of the seven companies in working towards net gain goal. Afterwards, we move on to revising the definition of BNG strategy and discussing the different meaning of BNG when applied in practice. In doing this, we aim to provide a satisfactory answer to our first sub-question. At the end of this part, we review and discuss the framework implemented by them to mitigate their negative impacts and increase biodiversity. Regarding the second sub-question, we review our primary findings and discuss the main stakeholders. Here, we try to analyse the influence that stakeholders have on our participant companies in aiming for net gain goal. Under the final sub-question, we discuss the implications of following the long-term goal of net gain. We lean on our NNL theoretical section to compare the outcomes of both strategies, and we present what we perceive as the most probable opportunities, risks and restrictions of net gain goal.

6.1.1. What is Biodiversity Net Gain?

BNG Progress Status

During our interviews, we realized, based on what our participants have informed us, that the seven companies are not as progressed with BNG strategy as we have believed. Despite confirming that net gain is eventually the ambition and the long-term goal of all these companies, they are all now focusing on reducing their negative impacts on biodiversity. Likewise, none of these businesses has disclosed in their official publications that they are formally striving toward net gain goal. In more details, we found that businesses in the mining industry (Company A and Company D) are more overt and official compared with the rest. This was realized in terms of following their biodiversity goals and coming further in the strategic work with BNG. By comparing the results from primary and secondary data, both companies were found to be more official in their work with biodiversity goals. They have formally specified in their annual sustainability reports that one of their current corporate goals is to actually achieve NNL. This means that NNL goal is actually imbedded in these companies'

business strategy to ultimately achieve net gain goal. On another note, it appears that the other remaining companies in energy sector (Company B, Company C and Company F) and organic food production (Company E) are more oriented toward reducing their negative impacts than explicitly aiming for reaching a zero-net loss. Here, we realized that despite not strategically and officially working with NNL strategy to achieve zero net loss, the latter companies are doing biodiversity enhancing activities. Interestingly, one exception was noted under the case of Company G (real estate and property). We found that the latter is keener on directly starting with BNG strategy soon instead of having NNL as an official pre-step. Currently, it is preparing to commence the implementation of the former strategy within the upcoming ‘few weeks’. In connection to this, we also realized that Company G has not yet started any direct biodiversity enhancing activities in preparation for the near implementation of BNG strategy.

Overall, the differences we have spotted in terms of these seven companies’ progress toward net gain goal could indicate an association with the nature of industries. In case of Company A and Company D, both companies are working in mining sector where their business mainly consists in manufacturing and distributing iron ore products. Such type of business is dependent on ecosystem services and the land in which companies are operating. Also, both companies are geographically close to the area in which biodiversity damages have been done and where they can be compensated for. It also should be noticed that both mining businesses are of fair size and have different ownership status (one private and one public). Here, we believe that it is the nature of industry together with its dependence on ecosystem services that explain companies’ progress toward net gain goal. We also hold these two reasons help explain companies’ tendency to be more official and explicit in stating NNL as part of the corporate strategy. Touching upon both the industry of energy and organic food production, Company B, Company C, Company F and Company E reflect a mid-position in comparison with the net gain progress of the other interviewed companies. Furthermore, despite noticing that Company C has come the farthest among in this group, it was not possible for us to rank the position of the other three (Company B, Company F and Company E) in comparison with each other. It appears that the mid-position of these four businesses could not be solely explained by leaning on the type of industry and dependence on ecosystem services. Regarding Company G, this business is a state-owned with the smallest size compared to the other six companies. Here, we acknowledge that real estate is an industry that is not as directly dependent on ecosystem services like those in the mining business. We believe this could help explain why Company G took longer time to start considering net gain goal or doing biodiversity enhancing actions.

In the end, we conclude that all our participant companies are ultimately striving toward a bigger goal which is BNG. Nevertheless, what is apparent is that each business is on a different progress level and each has its own plan to attain such goal. Both companies in the mining industry have set attaining zero loss as their initial and official goal to achieve. Others in energy and food production industry are gradually working on reducing their biodiversity negative impacts. One company (company G) has set future plan to start working directly with BNG strategy. These differences in BNG progress position could be dependent on the type of industry and dependence on ecosystem services. Still, due to our small number of interviewed companies, we do not hold enough information that allow us to draw a definite conclusion in this regard.

Here below, we construct a net gain progress continuum (see figure 6) to encapsulate what we perceived as the current position of the seven interviewed companies. We acknowledge this might be a rough positioning and might not be accurate, still for the purpose of clarification, we consider this to be reflective of our findings.

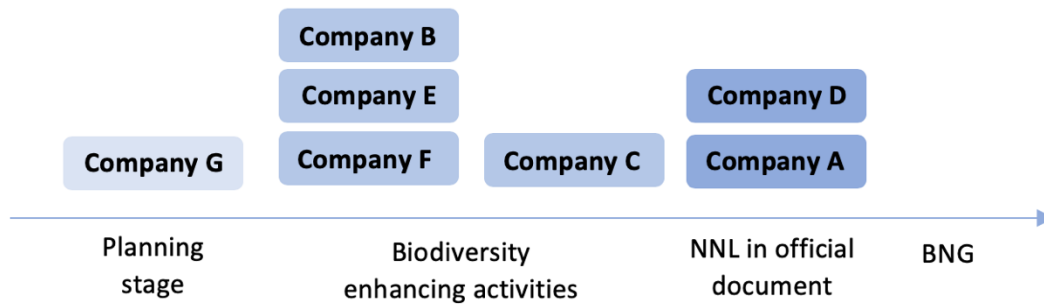


Figure 6. BNG Progress Continuum

BNG in Business Practice

Within the ‘business’ sphere of biodiversity, we were able to understand a substantive part of our research relating to our first sub-question: what it means to engage with BNG in practice. At this stage, our secondary data only allowed us to form an overview on the environmental work of the seven companies which did not help us answer our sub-question on what BNG is. Hence, we centrally relied on our primary findings and recalled the chosen definition of BNG concept to see the extent to which the theoretical description matches the in-field work. Earlier in the literature review, BNG was defined as:

“A goal for a development project, policy, plan or activity in which the impacts on biodiversity it [project] causes are outweighed by measures taken to avoid and minimise the impacts, to undertake on-site restoration and finally to offset the residual impacts, to the extent that the gain exceeds the loss.”

Looking again at this definition, we can see that theoretically achieving a net gain is gradually done by first avoiding any biodiversity damages. In case this was not enough or possible, companies move then to minimize their negative impacts. At some point, restorative activities adjoin minimization practices and amass until zero environmental losses are attained. Finally, continuing to counterweigh the negative impact eventually leads the positive actions to outweigh the negative ones. From our interviews, we realized that this definition conforms to a certain extent with the in-field practices. Broadly, some companies (Company A and Company D) appear to follow a more official approach (mitigation hierarchy) and apply the four stages of avoidance, minimization, restoration and offset to firstly achieve NNL goal. Others such as those in the energy sector and organic food production industry seem to be more oriented toward restoration step. By that, we mean that they are rather engaging with more biodiversity enhancing activities to reduce their negative impacts. However, what all these seven companies have in common is that they are unofficially striving toward the long-term goal of BNG. Interestingly, Company A and Company C aired that they might have reached a certain level of net gain, that is, they might have created more nature than destroyed in relation to a specific project. Still, no secondary data were officially stated to support that these two businesses or the other five are formally implementing BNG strategy. Similarly, we found no secondary data reporting that the efforts done to mitigate biodiversity losses are part of the companies’ strategy to reach NNL goal. In this regard, we believe that the uncertainty in correct progress quantifications might be the reason that prevent these businesses from officially stating their work with NNL/BNG and reporting the progress made. Also, we reason this could be equally explained by fear of green washing accusations. There companies can be held untrue to their

pledges if any NNL or net gain promises are officially stated but not correctly met or insufficiently reported.

Connecting this to BNG's definition, striving towards net gain goal in practice means engaging with different practices that are not necessarily physical. In essence, aiming to nullify the negative impact and attaining zero net losses (NNL) is a pre-step toward the long-term goal of BNG. Still, we realized that in achieving restorative and compensatory activities, companies differ from each other. From our findings, we found seven meanings of engaging with biodiversity in practice and aiming for the long-term goal of net gain. On the one hand, BNG practices can mean engaging with restoration actions that affect the direct project's location. This was apparent in the case of some businesses in the industry of energy and mining, namely Company B, Company C and Company D. One example on this is fish farming or building lanes to help some fish species overcome water currents and reach other side of the river. Here, BNG's work takes the form of actions that help re-establish habitats and damaged areas. Once zero net losses are reached, these activities jump to the compensatory stage of BNG (according to its definition) and start increasing biodiversity.

A second way explaining BNG under practice is doing remunerative actions on areas that are off their projects' sites. Herein, we found out that companies in the same type of industries as earlier Company B and Company C (energy) and Company A (mining) are striving towards compensating in off-site locations to attain zero loss and eventually net gain. Company B, for instance, mentioned the possibility to create a compensation pool and combat invasive species to help create new fitting habitats for species that have been affected.

In addition to these direct and off-site ways, we realized that companies in the energy and mining industries hold a different perspective of increasing biodiversity. In this, BNG's work does not only mean engaging with direct and indirect physical actions. Interestingly, Company A (mining), Company B, Company C and Company F (energy) put a high value on biodiversity research and invest time and funds to conduct studies in order to develop biodiversity related knowledge. The analysis of this part helped us gain much knowledge on that conducting biodiversity research is part of BNG efforts to attain net gain goal. For example, company A is doing research about specific BNG measurements. In this, it is trying to find an international framework that can be used in Sweden to speed-up the implementation of BNG and increase the demand for more compensatory initiatives. We also realized that pouring money into research does not only find ways to restore/compensate the locally researched areas. Factually, it is conducted to aid companies inspire innovative ways to improve their business (products/services) and compete with rivals. Eventually, companies' research results can even be documented and shared with other organizations to expand the network of voluntary BNG practice while still benefiting the core business.

Under the same framework, making slight changes to business strategy in order to attain net gain is also part of BNG's practices. In doing that, companies make all different departments in line with zero net loss and net gain objectives. In this case, it becomes important for them to find a way to finance those voluntary initiatives. So, in order to keep making profits and doing biodiversity enhancing activities, these companies might find cooperation as an appealing alternative to be part of biodiversity friendly companies. This conforms with what other participants informed us on their way of striving toward BNG goal. Some interviewed companies, particularly in the energy sector, are already working in cooperation with other businesses to achieve such goal. this example was rather seen in the case of Company C, Company D and Company F. We have learned that BNG requires expensive measures, and one

way to finance such voluntary initiative is through unifying companies. Based on our findings, gathering local companies under one roof is not only a way to work with BNG but also a mean to finance these practices. In this respect, collaborations do not only help build a bigger network for enhancing biodiversity, but also create a greater market appeal for voluntary BNG. Greater business opportunities can arise from collaborating with other businesses, which would be beneficial for both biodiversity and also for the prosperity of local companies in Sweden.

We have also learned that some companies, again in the mining and energy sectors, are looking into restoring extra habitats both in and around the areas where they are geographically present. Once those are restored, Company A (mining) and Company C (energy) told us that such lands are to be sold for other companies that need to mitigate their negative impacts on biodiversity. Based on our findings, it seems that doing BNG-oriented actions also takes the form of what it is called the practice of mitigation-banking. It holds great odds to become an appealing market in Sweden for striving toward NNL and BNG targets. One challenge, in this connection, is linked with the low drive of the remittance in regard to compensation pools in Sweden. In this respect, this genuine willingness to initiate the practice of mitigation-banking in Sweden can help popularise it and increase the willingness of other companies to embrace it. Likewise, we acknowledge that some industries are highly dependent on ecosystem services and find it impossible to mitigate for their biodiversity losses. Herein, the practice of buying restored lands of similar value to the engendered damages gives an equal chance to some businesses to be a part of net gain initiatives. On a different note, restoring and compensating for biodiversity are a lengthy process (could take years). We reason that mitigation-banking is a more immediate BNG solution for companies to embrace and advance towards NNL and net gain goals. We reason as NNL and BNG's procedures becomes smother and grow larger, more companies would find it easier to engage with net gain initiatives and mitigate their biodiversity damages.

With respect to the previous part, we have realized that BNG can also mean creating a systemic change in terms of how politics have a role on BNG in Sweden. Companies notably in the industry of energy and mining (Company A, Company B and Company C) are trying to capture and draw the attention of authorities towards biodiversity's dire situation. For them, an essential part in attaining net gain concerns motivating legislations to facilitate NNL and BNG measures and make them easier to embrace. We believe these companies' voluntary efforts towards biodiversity should be accredited by authorities since they are leading the development of BNG initiatives in Sweden. Visible support can help accentuate and spread such positive cause.

In summary, this was in line with our BNG's progress continuum of the seven companies. The energy and mining sectors are the ones most progressively moving towards BNG's goal. This is explained by the nature of their industries where companies in such sectors are more dependent on ecosystem services. Their prosperity and future benefits rely on the vitality of ecosystem and continuity of the services it offers. However, when it comes to Company G, it is still in the planning phase which explains its absence regarding what companies are doing in terms of BNG. The size can explain why Company E is not present under this part as well. In comparison with the businesses in the mining and energy industries, company E is quite small in size. Although it is dependent on ecosystem services, its size can restrain it from further progressing with BNG's goal. From our secondary data, an additional thing that helps explain the absence of Company E is that in Sweden, only large companies are required to report their sustainability actions in accordance to the legislations. Therefore, size can play an important role in helping companies progress towards BNG's goal.

Mitigation Hierarchy

In this section the findings from both the secondary data and primary data concerning the Mitigation Hierarchy will be compared to previous literature. The mitigation hierarchy, together with BNG, is a new and emergent concept in Sweden. As described in the literature review, this framework is legally enforced in the UK and US which contrasts the current legislation in Sweden. At the time when we were exploring this part in our thesis, the remittance on the report of ecological compensation by the Swedish Government, was waiting for answers from the invited key stakeholders. This remittance presented the first building blocks of the eventual new Swedish legislation concerning mitigation hierarchy. A difference between the definition from CSBI and the presented explanation of the mitigation hierarchy in the remittance, was identified. In the Swedish remittance, the third step of CSBI's definition of mitigation hierarchy, 'restoration' is presented in a slightly different way. The Swedish remittance uses the phrasing of the four steps of the mitigation hierarchy: "[...] avoided, minimized and rectified at the location, and only as a last resort be compensated" (SOU 2017:34). The wording of rectifying instead of restoring adds a more technical connotation and loses some of the natural connection which lays within 'restoration'. The benefit of choosing rectifying is that communication around actions that are restorative, and in contrast referring to actions at the third step of the mitigation Hierarchy, might become clearer. We experienced the double-meaning of 'restorative actions' as a hinderance of communication by while writing the thesis. On the other hand, a risk in changing the phrasing is that it could open up for discussion around the international translatability of the framework.

From our findings, it is clear that the knowledge of mitigation hierarchy is connected with efforts to strive towards net gain goal. The Four companies; Company A and Company D (mining sector), Company F (energy) and Company G (real estate) which stated that they will or are currently using the mitigation hierarchy are also are striving towards BNG's goal. The companies that are not clearly stating mitigation hierarchy as a tool to be used are Company C (energy industry) and Company E (organic food industry). The reasons for Company E not being aware of or planning to use the Mitigation Hierarchy can be due to type of industry (organic food production) and the nature of its business model. Company E's impact on biodiversity in its day-to-day business practice is through its suppliers. Hence, it is rather the farmers who would use the mitigation hierarchy if a new area is planned to be converted into farmland. Another explanation could be the size of Company E, as its small size under the current legislation does not require it to report a sustainability rapport. This also can be extended to the fact that the stakeholders' pressure is lesser. Company E was the only company which was started by a foundation. Such foundation is, as reported in the secondary data section, a proponent of the biodynamic farming practices. Hence, the difference between Company E and the rest in terms of not using mitigation hierarchy can also reside in the origins of sustainability efforts as they could play a role. Company E was founded in order to "*create profitability through sustainability*" and thus, it comes from a more philosophical and less technical approach than the other interviewed companies. On another note, Company C is rather knowledgeable of the mitigation hierarchy. However, it seems to be unable to achieve the first step of 'avoidance' in the coming projects. Here, looking at their industry and/or size does provide us with useful insights to explain their situation, especially that the two other energy companies are planning to use the mitigation hierarchy. This points out to differences within the energy businesses such as varieties of energy sources (wind, hydro and solar), how far the company is strategically working with BNG and also the risk of being accused of greenwashing. From our findings, the mitigation hierarchy is able to mend biodiversity more efficiently if it is standardised across Europe and the rest of the world. It can lead to a competitive advantage for the companies in the countries with the cheapest biodiversity credits.

Also, from our findings only Company A (mining industry) had the mitigation hierarchy as a part of its official publications. Specific parts of mitigation hierarchy's terminology were, however, used in the official documents of other companies, most frequently 'minimize', as they want to minimize their impact on biodiversity.

Even if a company is not officially using mitigation hierarchy's terminology, it is inevitable that, in order to reach NNL or BNG, companies in every industry are indirectly following one or more of its steps. Put differently, all the efforts made by the interviewed companies within their industries can be put somewhere on the spectrum of the mitigation hierarchy, where the majority of them are either restorative or offsetting actions. A company might ignore or be unaware of the use of the mitigation hierarchy. Still, when its goal is to offset its negative impact on biodiversity by buying credits from a (future) Swedish compensation pool, and it does not take any measures to minimise, the company would still act through one of the steps of mitigation hierarchy.

The current legislations do not demand companies in Sweden to reach NNL goal to be granted permits. However, it is the first three steps which companies are evaluated upon when applying for new permits for land development. In practice, an all offsetting-approach to reaching BNG might not be possible. Yet, Swedish environmental courts weigh in other values when deciding to grant a permit. Examples of such values could be employment opportunities offered. The future legislation and how these values will be weighed against each other have a considerable impact on the future prosperity of Swedish biodiversity.

6.1.2. Who are the main stakeholders of BNG?

Our second sub-question concerns which stakeholders are involved in process of striving towards the goal of BNG. From the interviewees, findings enable a discussion in this section about whether results differ or confirm our literature review regarding the stakeholders.

From our literature review regarding the stakeholders' influence in adaption of new CSR goals, internal stakeholders are seen betrothed in the economic purpose and performance-driven activities of the business. Additionally, external stakeholders have a stronger emphasis on the environmental values. As a result of our findings, we decided that it is beneficial to go deeper with our stakeholders' division. In this, the corporate level is seen the most economically focused. The environmental staff of the company (the pool from which our participants are) have a 'split vision' where they are heavily concerned with the environment. They try to use such concern through the system of the company to create pragmatic 'win-win' solutions. If this is viewed as a continuum, the NGO's or local interest groups are on the opposing side of the spectrum being heavily interested in the environmental concerns. According to our findings, the environmental staff is an overlooked internal stakeholder. Environmental experts were found to have a more pragmatic approach to biodiversity issues than NGOs or the local interest groups. In comparison to primary external stakeholders such as local interest groups, the pressure of the latter is centered around their interest and does not necessarily contribute to greater environmental goals. Hence our findings contrast Overbeek et al. (2013). In the context of voluntary adoption of BNG, the environmental staff are primary internal stakeholders that do not only care for the economic performance of the company. They are also betrothed in environmental impact of the companies they work with. We also believe that the environmental experts have strong, if not stronger, influence than other primary stakeholders and current legislators in urging the companies to work with BNG. This also indicate that the pressure from primary stakeholders differs. INTC5 described how the owners (local municipality) requested high standards in environmental protection, but when further pressed, did not fully understand

the concepts which they used. At large, the initiation of biodiversity work was often instigated by the primary stakeholders, either internal or external. Company A realized the necessity for biodiversity work through all its local stakeholder dialogues. For Company B, it was previous criticism from media and the public that triggered the biodiversity work. Company E was unique in having the owners and founders (primary stakeholder) as enforcing the largest pressure to enact biodiversity positive practices. Based on these findings, the environmental staff had more of a chronic pressure to the organization. What it more, it was acute bursts of pressure from external stakeholder, such as the local community, that enabled the environmental staff to convert their pressure to actions.

The more central role of the environmental staff in studying biodiversity concerns, in contrast to sustainability issues in general, might be explained by the greater relevance of where the stakeholders are physically situated. As the direct impact on biodiversity affects the stakeholders present at the area effected, when studying drivers of BNG, it could be beneficial to differ between local and non-local stakeholders. This is supported by the findings that two stakeholders, the local community and interests' groups, were expressed by the majority of the companies to be one of the most prominent stakeholder group.

Overbeek et al (2013) argued that the primary stakeholders (suppliers, creditors, shareholders and policy-makers) tend to hold a more strategic position among the stakeholders and also are “*more or less permanent*”. This was not supported by our findings. Suppliers, creditors and policy-makers were not mentioned or reported to enforce any pressure in any industry. Rather the opposite was held true. Company A (mining) was reported to not only take biodiversity seriously in its company, but in the whole value chain. It was rather putting pressure on its suppliers and motivating its customers to follow certain standards. The same holds true for policy-makers. Companies in the mining industry (Company A), energy sector (Company B and Company C) and within the organic food production (Company E) are the ones pushing the legislation and putting pressure on the policy-makers. This was both on the local, national and international level, often in order to increase the ambition of the Swedish legislation regarding biodiversity. Concerning stakeholders being “*more or less permanent*”, this would be more correctly used when describing the local external stakeholders. Once again, this could be explained by the geographical presence of the companies around local communities. The mining company (Company A) has been working with the Sami population since the beginning of their practices. Since it develops land as part of its operations, the stakeholders who are geographically close to that land will be stakeholders throughout the project. In support of Overbeek et al. (2013), shareholders were in the example of INTA5, INTC5 and INTE5, a primary stakeholder. Contrasting to both Overbeek et al. (2013) and the findings by Rainey et al. (2014) in table 8 (see section 2.5.2.) creditors were not mentioned as neither primary nor secondary stakeholders.

Another addition to previous research is that potential employees are viewed as primary stakeholder. The importance of attracting good employees was emphasized by several companies and was seen as a way to gain competitive advantage. As mentioned by a majority of the companies, good potential employers are putting higher emphasis on the companies' environmental work. On a different note, future legislations are a secondary stakeholder in our cases. Even though, they are not prominent, they helped raise the awareness about biodiversity within the organization. The awareness of this future legislation had enabled Companies in the mining business (Example of Company A) and in energy sector (Company C) to freely proceed with biodiversity projects.

The idea that NGOs had been helping companies to integrate biodiversity into their business models, as suggested by Overbeek et al (2013), was not supported by our findings. United Nations SDGs was found to be a trigger for some of the companies to encompass biodiversity within their strategic documents. However, NGOs were not reported to aid the interviewed companies in business model innovation.

In general, stakeholders played a major role in influencing all companies across the different industries to align with net gain goal and embrace biodiversity enhancing measures in Sweden. Their influence is greatest in the mining and energy industries (case of company A and Company C). In fact, their role was not only found important, but they were also listed as a major driver in pushing all companies to be part of BNG’s initiatives. A summary of the identified stakeholders is found in following table:

Table 10: BNG’s Main Stakeholders

	Internal	External
Primary	<ul style="list-style-type: none"> • Management • Environmental staff • Other current employees 	<ul style="list-style-type: none"> • NGOs • Local communities • Shareholders • Customers • Potential employees
Secondary	-	<ul style="list-style-type: none"> • Current and Future legislation

6.1.3. What are the implications of BNG?

Identifying how the interviewed companies are bringing BNG into practice allows us to gain insights about the theoretical and practical differences in mitigating and increasing biodiversity. It also casts light on the ensuing implications of engaging with its practices. Here, we do not only cover the risks and restrictions but also the positive outcomes (opportunities) arising.

Opportunities

Starting with the positive implications, our interviews helped us realize that achieving zero net loss and net gain are not the only merits to benefit from. In fact, engaging with biodiversity enhancing activities generates other societal and economic values such as creating job opportunities in the rural areas of Sweden. In the case of both mining businesses, Company A and Company D were able to create a living for many people and turn the projects’ surroundings into small communities. We believe regulations and authorities should not only accredit the voluntary efforts or the biodiversity-increase efforts, but equally the social and economic benefits that come with it. We also reason that once these efforts are accredited, they can help spread net gain’s initiatives and encourage more companies to be part of it. Recalling the positive implications of NNL strategy, such opportunity was not found.

On a different note, we found out that voluntarily striving to achieve BNG’s goal, although can prolong the permit procedure, it makes it easier to obtain operating licences. Hence, these companies have better odds seizing the competitive advantage on the long term compared to those that are not biodiversity-oriented. In gaining smoother access to environmental resources and lands, businesses in different industries might avoid delay-related costs and environmental penalties. By that, they could save financial and regulatory troubles biodiversity regulations grow tighter and stricter. Such opportunity concerning smoothing permit obtainment was also stated under NNL’s operational opportunities.

In connection with the current biodiversity legislations in Sweden, we have learned that some companies, particularly, in the mining and the energy industries want to reshape the current regulations of BNG and even create a systematic change in this regard. Such change is more related to the role of politics on BNG in Sweden and can be made by trying to seize the attention of authorities towards biodiversity's dire situation. The change could be realized by motivating legislations to facilitate both zero net loss and BNG practices and making them easier to embrace in every industry not only for mining and energy. Against this background, embracing biodiversity enhancing actions help bring authorities' focus on the matter and motivate them

Another opportunity concerns better decision making. In general, based on our findings, our interpretation is that in the long-term goal of net gain, companies are more likely to develop a clearer understanding of how biodiversity could contribute to their future. For instance, conducting research can enable businesses to create innovative solutions that do not only help increase biodiversity but also aid them in finding smarter ways (e.g. cost-efficient) to run their business. Over time, knowledge gained about biodiversity can help set those companies apart from their rivals and also enables them to take economically smarter decisions on the long term. Relating this to NNL strategy, we found a similarity between net gain's better decision-making and NNL's market & product opportunity. Complying with the latter was also found to improve companies' decision making and enhance their market position compared to competitors on the long term.

In addition, a fourth interpretation can be linked to external stakeholders. At the level of customers, engaging with biodiversity enhancing activities can aid the business secure their appreciation. This was valid for all the companies in the different industries. A living example in this case is Company E (organic food) as it was able to increase its brand value and win the trust of its customers. Looking at NNL's disclosed opportunities, we believe customers' appreciation can be classified as market & product opportunity. Meeting and exceeding customers' expectations through answering their sustainable purchasing choices can help gain their appreciation.

Based on our interviews, we were also able to identify another opportunity on the level of external stakeholders. We realized that engaging with biodiversity enhancing activities aid companies in winning the public acceptance. We realized that committing to net gain goal and showing the society what the businesses are actively doing to increase biodiversity is one factor to reduce backlash from communal parties and reduce their likelihood to protest. This is associated with decreasing products' and market risks. At the same time, the percentage of companies' credibility is likely to increase when businesses are able to show how they are engaging with BNG goal. This was underlying for companies in every industry. In this, biodiversity enhancing activities are effective in securing acceptance of the local community. Looking at NNL's opportunities, public acceptance's opportunity was also found under its reputational benefits.

Developing and marketing low impact technologies was identified as an opportunity in the report by TEEB (2010) (see section 2.4.2). Relating this to our findings, this opportunity was accentuated specifically by the companies within the energy sector, such as Company B and Company C. They had examples of researching technologies to be able to gain higher efficiency from their hydropower plants with lesser impact on the biodiversity. The results of their projects have the potential to lead to new products, either for the interviewed companies or for an external actor, to bring into the market. Such opportunity was not spotted under NNL.

When it comes to internal stakeholders, in working with biodiversity, employees' trust is likely to be safeguarded. Based on our interviews, companies that are doing biodiversity increasing activities, communicating them to their employees and staying true to their word, are more likely to build a virtuous work environment. They form a more attractive work environment for both: their current staff and the new generations in that they are standing for high values. In doing that, businesses will be able not only to seize a reputational opportunity but also to boost employees' certainty about the organizational virtue. Matching this with NNL's implications, this was parallel to increasing the reputational opportunity, where attaining zero net loss enhances the accountability of companies and increases their staff loyalty to them.

When it comes to financing opportunities, our participants did not state any under the implications' part of the interviews. However, based on findings in earlier sections, one company within the energy sector (Company C) is using collaboration to achieve BNG. In this, BNG can create opportunities for partnerships as a tool to achieve the goal and finance the biodiversity enhancing practices. The partnership opportunity was also valid for another energy company (Company F) and Company D (mining). Paralleling this with NNL's implications, we found a similar opportunity under the financing category. Companies in the energy and mining sector are more likely to benefit from the financing opportunity through collaborations compared with the other industries.

Again, referring to our theoretical findings from TEEB (2010) 'managing and designing projects to reduce their footprints', had been identified as an opportunity of biodiversity. This was only stated under the case of a mining business (Company A) as we asked INTA7 about the innovation capabilities of biodiversity. No other company from different industries has explicitly stated such operational opportunity.

Our last opportunity is more related to cost reduction. Compared to NNL's positive implications, we found no similar benefits to decreasing costs opportunities. However, we have decided to classify it under operational opportunity as we believe it helps save costs of particular operations. Based on our findings, it appears that biodiversity can be used to mitigate temperature issue in real estate business as company G informed us. Biodiversity, itself, can be used to cool down the temperature of the building and hence saves heating costs. Although such information was based on one example, we believe this could be a potential opportunity for the other companies in real estate industry. Reaching back again to our theoretical findings about new business opportunities within biodiversity, TEEB (2010) suggested reducing input costs through improved efficiency and professional services in risk assessment. No empirical findings, in this study, confirmed the latter as opportunities for the seven companies within BNG.

To cut the opportunities' section short, we found that NNL and BNG goals both have opportunities under the operational, regulatory & legal, reputational, market & product and Financing categories. These opportunities, although share the same types of categories, they somewhat differed from NNL's. Interestingly, from our comparison with NNL strategy, engaging with biodiversity enhancing activities can safeguard one additional benefit not stated under NNL. Essentially, striving towards net gain helps build further economic and societal values by creating small communities in the rural parts of Sweden and offers jobs opportunities to people occupying them. Overall, we consider the opportunities presented by the seven companies as 'hidden' potential drivers for other businesses to explore, especially those in similar context and industries. Our reason to believe so is because our participants did not list

the former as their direct motivations behind net gain goal but rather as possible benefits in the future. Hence, considering those opportunities provides further incentives for other potential businesses to join this voluntary network of net gain initiatives.

Risks and Restrictions

Starting with the risks and restrictions, we realized from our interviews that a lack of credibility is perceived as a menace which three out of seven companies (the two mining businesses and one company in energy industry) found it probable to happen in the future. From our primary findings, net gain is considered as highly ambitious goal regardless of the nature of the business. Even though it is believed to solidify a company's credibility once reached, we reason that this is only a hypothetical outcome since no company, worldwide, has officially reached net gain yet. Making official pledges to realize BNG's goal can equally be a hindrance to the integrity of those businesses if they cannot be fulfilled. Looking back at our theoretical section about biodiversity strategies, BNG's credibility concern corresponds with NNL's reputational risk. Committing to either NNL or BNG goal, while there are no guarantees that they will be achieved or proper quantification and reporting measurements to demonstrate them, can hinder the credibility of companies and put their reputation on the edge.

We also noticed another risk that is similar to the context of credibility concern. The company within the real estate industry (Company G) stated that an anticipated risk is uncertainty about the future outcomes and what net gain goal might lead to when striving towards it. Company G has not yet engaged with its plan towards BNG's implementation. Here, there might be a blurred area for such company and others in the same situation on how to operationally go about it and what it might engender in that respect. In such case, uncertainty risk can become a restriction that can hold back not only Company G but also others' willingness to embrace net gain initiative regardless of their industries. This becomes more of an important risk in the absence of present instances that have officially made a breakthrough on BNG target. Comparing this with our disclosed NNL's implications, uncertainty in general is an additional risk that was not previously mentioned under zero net loss goal. We, however, interpret that it can be classified as an operational risk when considering working with net gain objective. The reason here is that when a company is uncertain about how to go about net gain objective, it becomes unclear if it is implementing it properly. Incorrect incorporation could impair the company's daily operations on the long-term and causes it far more costs than it can recover from.

Still, in connection with the risk of uncertainty arises another implication. Uncertainty can touch upon the operations of companies as we were informed by INTG9. There is an anticipated risk that net gain goal could clash with the main assignment of the company, which we believe could create conflicting work cultures. For instance, current or future employees might perceive it less appealing to work for an organization where the sustainability policy does not address biodiversity loss. This could equally lead to a rise of tension and an internal resistance from the part of the employees as biodiversity demand grows larger. This tension could either be horizontal; that is among the employees or it could be vertical illustrating a tension at the level of organizational orientations. We, here, associate this tension with a lack of equal prioritization as it was illustrated through the example of Company B (energy industry). In this sense, we realized that the lack of knowledge about BNG and the inexistence of same biodiversity priorities between the environmentalists and corporate level can be critical. It can create organizational tensions between both parties and even leaves net gain goal as mere notes on a document. On another note, having diverged corporate and biodiversity goals could engender additional costs relating to companies' operations as to keep working with both goals separately. The latter might have to invest further funds to finance biodiversity enhancing

activities. Particularly, businesses could even risk losing the benefits of incorporating BNG under their business strategy such as the competitive advantage compared to rivals. This risk is not restricted to energy industry, but rather existent to every company where net gain is not prioritized as the other corporate goals. Again, linking this to our theoretical findings, we believe these risks somewhat match with NNL's ensuing implications as both biodiversity strategies can be said to have operational risk in common.

Another risk we believe is common especially for companies in the sector of hydro power concerns longer permit processing. Despite having voluntary initiatives to embrace biodiversity enhancing activities, environmental projects can still be delayed as operating permits are being reconditioned. We believe as net gain grows more popular in Sweden and companies' network of voluntary work expands, legal requirements can grow sharper and might start tightening the conditions to obtain licences. Here, based on our primary and secondary data, reconditioning permits will concern both old and new environmental projects, which eventually can lead to greater costs due to deadline delays. In this, project delays are likely to create a bigger risk for all businesses that do not have voluntary biodiversity initiatives in the future, irrespective of the nature of their industries. Such risk rather concerns resource access and productivity. The risks from project delays under BNG's umbrella largely match the stated regulatory & legal risks of NNL strategy in the theoretical chapter.

Continuing to compare NNL's risks with BNG's, we realized that there is an uncommon restriction associated with communication. From our findings on two energies companies (Company C and Company F), there appears to be a hardship of communicating net gain concept and goal to different stakeholders within the organization. The absence of existing examples of companies with proofs on the accomplishment of such goal makes biodiversity a complex concept and can become a challenge for the organization to communicate it. Experts' testimonials seem more troublesome to communicate upwards and horizontally. This stands for every company and it not exclusive to one type of industry. Such restriction has not appeared under NNL's implications and we believe it might be more net-gain related seeing the novelty of the concept and the limited knowledge about it.

The Risk from Measurement

In our comparison between the risks of working towards NNL and BNG goals, we have noticed the presence of bigger measurement restriction under the latter. Although we classify it below the category of regulatory & legal risks, measurement issue forms a more substantive restriction in BNG goal than it is in the case in NNL. We, therefore, provide a thorough explanation below.

An interesting finding was the hardship of knowing whether or not companies have yet reached NNL or net gain. In the findings, Company A and Company C were both expressing concerns about not knowing what is 'enough' in terms of efforts. Company A restored 800 ha of forest in comparison to 160 ha impacted. Still, it did not want to state such achievement as BNG due to the risk of negative backlash from stakeholders. The biggest challenge relates to the absence of national standards when it comes to measuring the biodiversity process. Companies such as Company A is currently investigating what types of different standards exists internationally, and how these can be applied in Sweden.

INTC9 talked about how Sweden has the possibility to become the green battery of Europe due to its great availability of lands with inherent opportunities such as hydro, wind and biopower production. INTC9 also invited us to the discussion about whether countries should have different strictness in their demands on what NNL and BNG are. The international view which

INTC9 contributed with points out something important. Some countries have greater possibilities than other to deliver renewable energy. Sweden has a lot of lands, water and would be able to become an exporter of renewable energy to Europe if more plants were built. This exported energy could help countries such as Germany (mentioned by INTC9) or Holland (see section 4.2.1.) to transition to renewable energy faster. Apart from political benefits of making European countries less dependent on other regions, the biodiversity benefits would be the reduction of CO₂ from fossil fuels. This could be an argument for European or global authorities to take energy strategy into consideration when creating the national or industry-specific standards. In this sense, renewable energy producers in Sweden would get a discount on biodiversity, as the strategic contribution compensates for itself and becomes a biodiversity value. Optimally, this would only be during a transitional period.

But this also points to another issue concerning how to value BNG, which is discovered in this thesis. The purpose of a company is to take an input and create an output that is valued by a market. That market consists of us, humans, and our current civilization. All the interviewed companies are contributing with a value to this civilization. Company E supplies food, the energy companies keep all technology running and the mining companies provide minerals necessary for that same technology. Even though the interviewees work at the environmental section at the company, they are acknowledging the necessity of the biodiversity damage being done by the companies. Due to this position of a “split-view”, many of the interviewees called for that the product which their companies produce (extra biodiverse organic food, or renewable energy with a high proportion of biodiversity) should also be accounted for as a biodiversity value. This was also argued for due to that products contribute to society. This could be used as a discount in the mitigation hierarchy.

Another uncertainty is the scope of BNG’s measure. Is it the company or the project that should be BNG-oriented? Looking at ‘the company’, the historical impact also needs to be taken into consideration. However, to what extent should the historical debt hinder the possibility of the company to from now on being BNG? In general, the companies in this thesis that have no net loss in their official documents are only measuring NNL based on the negative impact they have from now on. Their current restorative efforts do not include all the past impacts they had on the environment. However, Company A and Company C elaborated upon which extent the historical biodiversity debt should be accounted for. The fact that it will not be accepted for a company to “just leave a hole” in the future as speculated by INTC9, has resulted in both Company A and Company C doing restorative work on their old mines. Can this retroactive restoration be used as compensation work? Company A alluded to that the environmental courts might have started to take the “cosmetics actions” (referring to compensational activities) into consideration when ruling on applications for new permits. This should be done even though their ruling is only touching on the three first steps in the mitigation hierarchy. A well pronounced measurement would lead to great clarity regarding biodiversity debt. It would also illuminate on whether restoration, for future offsetting, is a reason for companies to engage or to wait with engaging in voluntary biodiversity actions.

As a summary to the risks and restrictions’ section, our comparison between NNL’s risks and BNG reveals, according to our primary data, some similarities and differences. Both biodiversity strategies have operational, regulatory & legal and reputational risks in common. In working with net gain objective, companies should anticipate risks related to operating uncertainty, rise of internal tensions and resistance, project delays, lack of standardized framework and threats to companies’ credibility. Also, no market or financing risks were found when embracing biodiversity enhancing activities. Still, due to our small network of

interviewed companies, we acknowledge that this might not be true for every company or industry in Sweden. However, what is interestingly different under BNG, is that companies which voluntarily strive towards increasing biodiversity should be alert of the lack of knowledge and the complexity that ensues that. The challenge to communicate net gain to stakeholders can make it troublesome to convince stakeholders of BNG’s merits. It is in this sense, we reason that, in different industries, businesses which would voluntarily follow the same path of these seven companies, might experience some financing issues in acquiring funds from supporting stakeholders. At large, we recognise that the interviewed companies are taking a bold step towards biodiversity and making voluntary efforts to improve its situation in Sweden. Nevertheless, as these companies’ work is ahead of the regulations, their actions might not be cost-efficient and might not be properly evaluated or managed since they do not have any standardized measurement to lean on. In the following table, we present a summary of BNG’s opportunities, risks and restrictions.

Table 11: Implications of BNG

Category	Type of implication	
	Opportunities	Risk and Restrictions
Operational	<ul style="list-style-type: none"> • Smoothens the access to operating permits • Saves heating costs (for real estate businesses) • Managing and designing projects to reduce their footprint 	<ul style="list-style-type: none"> • Increased uncertainty on how to operate with net gain goal • Rise of tensions and internal resistance within the organization (vertically and horizontally)
Regulatory & Legal	<ul style="list-style-type: none"> • Helps shape net gain’s legislations 	<ul style="list-style-type: none"> • Risk to delays projects • Lack of standardized framework for BNG measurement
Reputational	<ul style="list-style-type: none"> • Helps win public acceptance • Helps secure Employees’ trust and reinforce organizational virtue 	<ul style="list-style-type: none"> • Threat to company’s credibility
Market & Product	<ul style="list-style-type: none"> • Better decision making (smarter economic decision; e.g. cost-efficient) • Wins Customers’ appreciations • Developing and marketing low impact technologies 	-
Financing	<ul style="list-style-type: none"> • Uses collaboration and partnerships to fund BNG’s practices. 	-
Social and Economic Values	<ul style="list-style-type: none"> • Builds communities and create more job opportunities 	-
Stakeholders-Related	-	<ul style="list-style-type: none"> • Complexity to communicate it to different stakeholders

6.2. Voluntary Drivers of BNG Strategy

With respect to our research question, we analyse and discuss our empirical findings concerning the voluntary drivers that encouraged the interviewed companies to work towards BNG’s goal. Findings are discussed here in light of our literature review, primary and secondary data. In essence, we analyse our findings and discuss them using the model that we have based on the Schaltegger et al. (2012) and CSR approaches (Overbeek et al., 2013). At the end of this section, we lean upon the totality of all our findings (theoretical, primary, secondary and discussion) to

present a classification of the seven companies in terms of their behaviour toward BNG’s goal (defensive, accommodative or proactive).

6.2.1. Comparison of Previous and Current Findings

Under this part, we compared drivers by the interviewees to the list of drivers from our model. Interestingly, when we asked our participants to freely elaborate on their voluntary motives, their answers matched the list of the drivers from our model (see Table 5). However, we were able to find a new driver, which we reason cannot be classified under any of the other categories. This was the driver of ‘health and wellbeing of future society’, which was most eloquently stated by INTC6. This driver entails strong personal values and concerns of the employees for the future health and wellbeing of the society. By working with a BNG approach, it appears that organizations aim to be part of the environmental solution. This was also exemplified by other quotes in our findings concerning participants’ concern for their children future. Again, our research question is concerned with determining every possible driver of the seven companies behind voluntarily striving towards BNG goal. we added ‘health and wellbeing of future society’ to our suggested list of drivers. Finally, we presented the final list of voluntary drivers which we name ‘confirmed list of voluntary drivers’ (see table 12). We believe this final list captures every possible driver of the seven companies which we use not only to reveal their reasons for voluntarily working toward net gain goal but also to explain their behaviour (defensive, accommodative or proactive) in doing it.

Table 12: Confirmed List of Voluntary Drivers

Drivers
Cost and Cost Reduction
Risk and Risk Reduction
Sales and Profit Margin
Reputation and Brand Value
Attractiveness as Employer
Innovative Capabilities
Stakeholders’ Expectations
Health and Wellbeing of future society

6.2.2. Discussion of Drivers and Companies’ Behaviour

In this section, we discussed each driver separately. Leaning upon our findings and our model, we concluded the companies’ defensive, accommodative or proactive behaviours.

Cost and cost reduction

BNG’s actions can:

- Minimize processing time of permits.
- Reduce cost through using voluntary biodiversity activities to attract stakeholders’ attention and support.
- BNG strategy can reduce cost of negative publicity.

As seen in our findings, three companies from energy (Company B and Company F) and real estate (Company G) industries stated that *cost and cost reduction* were a driver for them. Interestingly, the mining businesses, which are the companies that officially have come the furthest in incorporating a BNG strategy, did not see that their biodiversity initiatives were

driven by the possibilities to reduce costs. Due to that they are in the same industry, it is valuable to further look on how industry hinders or enables cost and cost reduction to be a driver. However, Company A (mining), together with Company C (energy), emphasized that cost can become a driver in the future, or, when thinking in the long-term. Here, cost and cost reduction can be an attractive driver for companies in the energy industry. When the measurements and valuation of biodiversity work proceed, this driver is believed to become even more prominent.

The same companies from the energy and real estate context (Company F and Company G) displayed a proactive behavior in how ‘cost and cost reduction’ can be achieved by biodiversity. Voluntary biodiversity actions were in these companies resulting in ‘cost reductions’ through minimizing the processing time of permits. Costs were also reduced through using voluntary biodiversity actions to gain the support of stakeholders. Company B also from energy sector used voluntary biodiversity actions to reduce and finally remove negative publicity which was inferring a cost. This behavior is defensive in accordance to the definition by Schaltegger et al. (2013).

Risk and risk reduction

BNG’s actions can:

- Risk in not acquiring the approval of legislators and permit issuers.
- Be used to evade customers’ and other stakeholders’ criticism.
- Build a greater resilience towards the inherent risks of the climate change.
- Reduce risk of future retroactive cost for “leaving a whole”.

Interestingly, all the companies in different industries saw biodiversity as a driver for risk reduction. Many of the risks were also connected with the costs which were expected to be reduced with biodiversity enhancing measures. The greatest risks that biodiversity could help mitigate largely concerned not getting operating permit along with the negative impacts from being subject to criticism. A differing situation was of Company E in the food production sector. Herein, biodiversity-oriented farming is more resilient than conventional farming. Using biodiversity to build resilience can be further researched as a concept in relation with other companies’ risk reduction measures. For example, to have a BNG strategy could be said to create a resilience against criticism not just for the organic food production but also for every other industry. It is building resilience against the permit issuers’ demands and against the risk of future retroactive costs for “leaving a whole” (INTC7). Biodiversity enhancing actions are in a further sense in accordance to what INTE7 said: “*there is no business on a dead planet*”. It is building a resilience toward any loss of future demand.

The companies who had largely removed the sources of high risk through their biodiversity actions were two companies in the energy sector (Company B and Company C) and on in the organic food production (Company E). These companies are valued as being proactive according to our model. Company G has not yet started applying its plan to attain BNG but is interpreted to be proactive when it does. In this case, its current behavior does not fit in the model as we have no information in that regard. When it comes to the remaining companies, they have viewed biodiversity and risk management as complementary and opportunity-creating concepts. We conclude that they are accommodative in their behavior to use biodiversity as a driver to reduce risk. They had not fully acted to reduce all the risks which could be mitigated by a proactive corporate biodiversity behavior.

Sales and profit

BNG’s actions can:

- Increase sales through better reputation
- Be used as tool for future strategic partnerships
- Be a competitive advantage as concepts such as ‘renewable’ becomes new base line (market-push)
- Motivate customers to ask for it (market-pull)

This thesis has confirmed that increased sales and profits was a driver for the interviewed companies to strive toward a BNG goal. It was even confirmed that companies already are having higher sales due to requests of biodiversity from their customers. This finding was found to be industry dependent. Factually, it was only the mining companies that reported their customers’ request while other companies, on the contrary, had to teach their customers about it. It could also be explained by the following facts:

- From our introductory chapter, we know that>NNL and BNG practices are further developed on the global level.
- The mining companies’ products are, according to the findings, decided by the world bank.
- The mining companies reported that a part of their sustainability work is to put pressure on their suppliers and motivate customers in order to secure a sustainable value chain.

Together, these findings can explain that biodiversity is requested by the customers in the mining industry. At least from the examples we have. When selling to end customers, the reverse holds true. Here, biodiversity can be seen as a possibility to enhance sales, however, not through a market demand, as the customers did not specifically request it, but rather indirectly. This indirect benefit was achieved through the brand value of actively educating the customers and the BNG’s efforts that the companies are doing. The education of customers led to a greater trust and, in extension, to sales. We also learned that BNG can be used to create sales through strategic partnerships. It was the case of an energy company (Company C) which educated the potential strategic partner about its biodiversity efforts. Even though Company C had to educate the partner about biodiversity, it was due to its BNG’s efforts that the partnership was made possible. BNG is seen to be a unique selling point in a market where the environmental base line is rising. Almost all the companies in the Swedish energy market are supplying renewable energy, which allows BNG to become a competitive advantage.

It was made clear that some companies in the mining sector (Company A), energy (Company C) and organic food production (Company E) had a proactive behavior with regards to sales and profits being derived from biodiversity. This is because their strategies involved making biodiversity-oriented products as part of the company’s core portfolio. With regards to other company in the mining industry (Company D), it has an accommodative behavior as the driver of sales and profit margin was recognized only by the demand of the market. For the other companies it was not possible to interpret due to insufficient information. BNG’s initiatives hold sales and profit as more appealing driver for companies that show proactive behavior, irrespective of the nature of their industries.

Attractiveness as Employer

BNG’s actions can:

- Maintain the attention of biodiversity concerned employees.
- Attract the attention of high-skilled potential employees.

Under the driver ‘attractiveness as employer’, engaging with biodiversity enhancing actions helps secure the current staff and attracts a future pool of skilled employees. In this respect, all

companies in different industries confirmed the latter as one of their drivers towards achieving a net gain goal. Still, we have noticed some difference in the efforts generated to become a more attractive organization. For instance, companies in the mining (Company A and Company D), energy (Company B and Company C) and real estate industries (Company G) put/are likely to put high emphasis on the importance to reflect responsible working environment. They also seem to be aware of the future generations and the rising challenge to meet their expectations in terms of environmental values and working environment. In this, by engaging with biodiversity increasing activities, these companies aim to capture the interest and attention of the young generations. Exceptionally, Company C is already making efforts in training the new employees and communicating with them about its positive environmental work. Looking at the model we are using to determine companies' behaviours, a firm is called proactive in terms of 'attractiveness as employer', when it offers "*Continuous education, innovative positions, social attention, increase attractiveness to highly skilled workforce and new talents due to high sustainability reputation*". Here together with their reputation driver, we can fairly conclude that companies in the aforementioned industries are proactive in this sense. We were, nonetheless, unable to conclude the behaviour of neither Company E (organic food production) nor that of Company F (energy) due to our insufficient information in this respect. In general, attractiveness as employer is a driver for companies to engage with BNG's initiatives irrespective of the industry nature.

Reputation and Brand Value

BNG's actions can:

- Build a reputable business
- Help demonstrate leadership

Within this driver, we realized that engaging with biodiversity-enhancing activities has great potentials to improve all companies' reputation and brand value. As we have stated in our findings, all the seven companies confirmed it among their drivers to achieve their long-term goal of net gain. However, what could be noticed is that some companies from different sectors appear to be far driven in this regard than others. In particular, Company E (organic food production), Company F (energy) and Company G (real estate) are/Will be more actively working to enhance their reputation and market presence. This is done through their biodiversity actions. For instance, Company E, according to what stated by INTE7, has created the tool box not only for environmental purposes but also to support their organic food brand. On a different note, Company F is trying to gain the public's acceptance by founding a reputable business that equally contributes to environmental concerns that are important to people. Company G, in spite of not initiating biodiversity enhancing activities yet, seems to be determined in the future to be a role model in this sense and to reflect an ideal reputation. In this case, reputation and brand value is a driver for all companies and it is not industry dependent. According to our updated model of Schaltegger et al. (2012), a company is proactive under reputation driver when "*sustainability is actively communicated and is a major driver of reputation and brand value; the company engages in boundary-spanning and stakeholder integration*". From this perspective, Company E, Company F and Company G are proactive. Despite that INTE7, INTF7 and INTG7 do not particularly mention stakeholders' engagement under reputation driver, they have stated it under the driver of meeting stakeholders' expectation. Also, throughout their actions to increase biodiversity, these companies are aiming to embellish their reputation and brand value. Hence, we classify them as proactive. Concerning the remaining companies, they have confirmed reputation as their driver towards BNG's goal. Nevertheless, we have insufficient findings regarding them to say if they are either proactive, accommodative or defensive.

Innovation Capability

BNG's actions can:

- Create possibility for competitive advantage through better combination of technology and biodiversity.
- Let innovation maintain both business practice and biodiversity.

Innovation capability was found to be a driver for initiating a BNG strategy. The most common answer was the necessity to focus innovation's efforts on combining the objective of reducing the impact on biodiversity and at the same time increasing efficiency. Innovations that combine higher biodiversity and efficiency were also viewed to have the potential to create competitive advantages against competitors. Innovation capability is, hence, viewed as encapsulating the chance of gaining a competitive advantage in a competitive permitting process. However, the same innovations could also open the potential to sell the solution, either through current or a new company. Such driver is not industry dependent as all companies have the possibility to benefit from innovation capability when engaging with BNG's initiatives. The fact that innovation capability is a driver to engage in BNG can also be seen in Company C's creation of an innovation team with a sustainability responsibility. To strive towards BNG is also seen to open up more significant opportunities of innovative collaborations together with other companies. Such collaborations could be intra-industrial or cross-industrial.

The majority of the companies in different industries (Company A, Company B, Company C, Company D, and Company E) expressed a proactive behavior when it comes to innovation capability as a driver. Many of the companies expressed that biodiversity will have an impact on their business model and that they are trying to innovate so that a win-win situation is created from biodiversity and profit. INTA7 did not explicitly state so in the interview. However, based on the secondary data, the company is engaging in cross-industrial collaboration to create a fossil-free mining practice together with multiple research projects. Here, it is valued to be proactive. Company F (energy), however, is found to be accommodative as its innovation focus is still "*limited by boundaries of existing business logic*" (Schaltegger et al., 2012). This again confirms that innovation capability is not sector-related as other energy companies perceive this driver as important for them to obtain competitive advantage. Innovation capability is rather connected with proactive behavior.

Stakeholders' expectations

BNG's actions can:

- Secure stakeholders' acceptance and support.
- Enable knowledge sharing with stakeholders.

Looking back at our rationale in selecting such driver, we reasoned that meeting stakeholders' expectations could have potentials to be a voluntary driver to help us explain the companies' voluntary initiatives behind BNG goal. Interestingly, from our findings, meeting stakeholders' expectations is indeed a major driver for most of the companies. Considerable efforts are being made, through biodiversity enhancing activities, to accentuate organizational accountability towards biodiversity matter. Additionally, based on case of the two mining businesses, it was the stakeholders (either the customers and/or NGOs) who pushed the companies toward increasing biodiversity in Sweden. This can be either through demanding biodiversity-oriented products/services or it can be through pressure to engage with biodiversity enhancing activities. Here, it appears that stakeholders' awareness of biodiversity situation has a major influence on mining industry to embrace BNG's goal in Sweden. Regarding creditors, however, they were

mentioned in the theory by Overbeek et al. (2013), as one of the primary stakeholders in putting pressure for greater environmental practices. This could not be confirmed in our thesis.

In general, in spite of confirming stakeholders' expectations as a major driver for all the companies, we still have noticed varying efforts in keeping the former on their side. For instance, both mining companies are more progressed in this sense and engage in a dialogue with their stakeholders, where they become part of net gain process. On another note, we have realized that businesses themselves can sometimes push the stakeholders (e.g. suppliers) to engage with biodiversity enhancing practices. This was overtly seen in the case of organic food industry. Surprisingly, we have also realized that in the absence of customers' demand or pressure (case of energy businesses), companies still strived to meet and exceed the expectations of NGOs and local interest groups. We believe that meeting stakeholders' expectations is far more valuable than the motivation to meet the legal regulations in Sweden. Such driver, although is quite prominent for mining industry, is still not exclusive to such business sector. Meeting expectations of the stakeholders is an appealing driver for all industries.

Looking at the cases we have, companies in all industries (with the exception of Company G since it has not yet engaged with its BNG's plan) are all taking a voluntary step in showing stakeholders their accountability towards biodiversity. Stakeholders are highly valued here and, in some cases, they are engaged in companies' process toward net gain goal. Reaching back to what we have stated earlier about proactive firms, these companies' behaviour fairly parallels the definition of Overbeek et al. (2013, p. 2) which goes: "*businesses that voluntarily and responsibly address the environmental harms at the beginning of projects' life cycle and encompass stakeholders in the process of doing it, are rather called pro-active*". We, hereafter, classify companies A, B, C, D, E and F as proactive.

When it comes to the real estate business, it appears that Company G was under a lot of pressure from its stakeholders to start working with the 'green bonds' and eventually bounds to their demands. Looking again at the definition of reactive companies, we recall that "*businesses under the reactive approach perceive CSR as a liability where they are bound to respond to stakeholders' expectations and norms by mitigating their harms on the ecosystem*" (Sastararuji & Wottrich, 2007, p.11). From this perspective, Company G is reactive (defensive), and its behaviour can be fairly explained by its motivations to answer its stakeholders' pressuring demands. According to our findings, no companies were found to be active (accommodative) under the driver of stakeholders' expectations.

Health and Wellbeing of Future Society

BNG's actions can:

- Help solidify the company's social value.
- Win public's trust.
- Increase employees' motivations and stakeholders' support.

From our findings, we have interestingly discovered a new driver that was exclusively stated by INTC6 and which concerned the health and wellbeing of future societies. What we have come to realize is that economic growth is not likely to slow down. This constitutes a major hazard to biodiversity as many habitats (e.g. forests and oases) are threatened by extinguishment in the foreseen future. Here, embracing actions, that gradually help restore habitats and eventually create more nature than destroyed, contributes to the health aspect and wellbeing of future society. Engaging with BNG-oriented practices serves another purpose other than adding

to the environment. It leads to a positive impact on society since it has more direct environmental enhancement. By that, we mean that BNG’s efforts visibly manifest and can be experienced by both the contributor (companies), local society and stakeholders. To better explain this, we look at the difference between BNG and the zero emission of CO₂, where the latter is harder to observe. A good example here is from Company C where it has installed fish ways and equipped them with cameras. These tunnels enabled fish to reach the other side of the river after being unable to do so for hundred years. Eventually, with life coming back to it, the river would have the possibility to flourish once again and people will be able to use it recreationally. In this case, using the cameras to show to the world such BNG practice communicates various benefits. On the one hand, we believe people are more likely to appreciate the company if the latter engages with practices that aim to contribute to the health and wellbeing of society. On the other hand, such BNG practice can lead to develop an emotional involvement with the treated subject (e.g. area, land, species...) as the company becomes more engrained with the practice and has a direct positive impact on biodiversity. This can generate a greater motivation for the environmentally concerned staff as they become part of a contributing and virtuous organization. On a different note, because BNG’s positive impacts are visible and easier to show, this helps attract new stakeholders and give encouragement for other businesses to embrace it.

In general, despite being solely mentioned by Company C, we find health and wellbeing of society as an interesting driver not only for the mining sector but for all industries. It might, however, be a more appealing driver for companies that create dialogues with their stakeholders and those that are largely dependent on ecosystem services. Based on our interviews’ findings, Company C is actively engaging with biodiversity enhancing measures and is ambitiously moving toward net gain goal. As illustrated earlier, Company C is the most ambitious among the interviewed energy companies in terms of BNG goal progress. We reason that it could state as proactive in this sense. However, as we do not have any specific reference from academic research regarding the behaviour of defensive, accommodative or proactive firms under this driver. Therefore, we cannot confirm that Company C is indeed proactive. Here below, we present table 13 as a summary of the confirmed voluntary drivers according to each participant.

Table 13: Answers Regarding Drivers Divided by Companies

Drivers	Companies						
	A	B	C	D	E	F	G
Cost and Cost Reduction	Long-term	Yes	Long-term	No	No	Yes	Yes
Risk and Risk Reduction	Yes	Yes	Yes	Yes	Yes	Yes	Long-term
Sales and Profit Margin	Yes	No	Yes	Yes	Yes	No	No
Reputation and Brand Value	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Attractiveness as Employer	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Innovative Capabilities	Yes	Yes	Yes	Yes	Yes	Yes	No
Stakeholders’ Expectations	yes	yes	yes	yes	yes	yes	yes
Health of society	-	-	yes	-	-	-	-

6.2.3. Classification of Companies’ Behaviour

Using the theoretical model, we have illustrated in our theoretical chapter, we classified the seven companies according to the behaviour they reflected in striving towards BNG’s goal. For the first six drivers, being defensive, accommodative or proactive differed in the model under

each driver according to the description provided by Schaltegger et al. (2012). For the seventh driver that we have suggested ‘stakeholder’s’ expectations’, we adopted similar description by Overbeek et al. (2013) on three CSR approaches: reactive, active and proactive. These three approaches respectively match the corporate sustainability strategies (defensive, accommodative and proactive) by Schaltegger et al. (2012). In applying our model on the companies, it is also important to indicate that we have used another phrasing, which is different from the original model of Schaltegger et al. (2012). For instance, we have referred to the three behaviours as ‘Corporate Biodiversity Behaviour’ instead of ‘Corporate sustainability strategies’. This is due to that we are treating cases of companies under biodiversity and not sustainability. Also, we used the term ‘behaviour’ to avoid confusing readers with other companies’ strategies such as NNL and BNG. As for the last driver we have identified ‘Health and wellbeing of future society’, we had no specific description to follow as to determine the behaviours. Instead, we relied on a company’ overall practices and efforts in striving towards net gain goal. In essence, the seven companies in the Swedish context were not as progressed as we first believed them to be. However, from our findings, they mostly reflected a proactive behaviour under the majority of drivers as the following table 14 summarizes.

Table 14: Interpretation of the Interviewees’ Corporate Biodiversity Behavior Divided by Drivers

Drivers	Corporate Biodiversity Behaviour		
	Defensive	Accommodative	Proactive
Cost and Cost Reduction		B	F, G
Risk and Risk Reduction		A, D, F	C, E, B
Sales and Profit Margin		D	A, C, E
Reputation and Brand Value			E, F, G
Attractiveness as Employer			A, B, C, D, G
Innovative Capabilities		F	A, B, C, D, E
Stakeholders’ Expectations	G		A, B, C, D, E, F
Health and wellbeing of future society			C

Based on table 14, it appears that all the companies have a proactive behaviour in most drivers. Although they can in some specific drivers that they deviate from such behaviour, we interpret that they are in general proactive in their corporate biodiversity behaviour in working towards BNG. Even if none of the companies yet have reached it, they are working towards the goal in different ways and at their individual paces.

6.2.4. Business case for biodiversity

Recalling the section of the early business cases by IUCN, our findings reinforced the example given by IUCN (2016) that business cases for biodiversity do exist. Fundamentally, the companies complying with BNG’s goal have the potential to gain a “competitive advantage by, for example, avoiding costs and delays caused by protests about biodiversity impacts, and benefiting from a credible reputation for sound biodiversity management” (IUCN, 2016, p 2). Based on the answers from the interviewees about the company’s drivers to engage with BNG and the implications, it is clear that some are already finding a business case for biodiversity. Both Company A and Company C confirmed that customers are specifically asking for biodiversity. Company C vouchered for the great potential of biodiversity as leveraging new innovative collaborations. Having a long-term view increased the amount of answers confirming cases for increasing profits and decreasing costs through the goal of BNG. If BNG reaches a greater spread in Sweden, the market for compensation pools will generate new

business opportunities. The innovations needed to maintain or increase biodiversity while also increasing or maintaining efficiency also opens up for business cases, both for businesses and for third-party companies. Greater valuation methods are likely to increase the business case for biodiversity when statements of when NNL and further BNG being achieved can be verified, reducing the risk of being criticized for green washing.

Finally, we end our discussion chapter by depicting how our three sub-questions helped us understand and explain the seven companies' voluntary drivers for BNG's goal in Sweden.

First, by being able to understand what working towards net gain goal means, both in theory and in practice, we were able to understand the vitality of biodiversity for businesses and economic growth. Understanding the roots of BNG and how it has become a business concept helped better grasp and explain the reasons why the seven companies have voluntarily acted on BNG's practices. As for the second sub-question, identifying which stakeholders are involved with BNG and mostly influencing it led us to understand a major reason why companies are voluntarily engaging with such biodiversity initiatives. It has actually confirmed that meeting stakeholders' expectations is indeed a driver. Stakeholders do not just influence the biodiversity enhancing activities, they are, in fact, a key driver which motivated the seven companies to align with net gain goal even in the absence of legislations forcing the act. When it comes to the sub-question of implications, identifying opportunities helped us capture hidden drivers such as the ones under the operational, reputational and social wellbeing categories. We, however, chose not to list them under our confirmed list of drivers because they were not stated as such by the participants themselves. We believe keeping them among the opportunities form potential drivers to motivate the future businesses to embrace BNG's goal. overall, exploring the implications led us to further clarify the reasons companies have engaged in such voluntary practices. It has parallelly helped us capture hidden potential drivers for future companies in similar and/or different industries. By leaning on our findings from these three sub-questions and our model, we were able to identify the drivers of the seven businesses in Sweden and explain their voluntary behaviour. We were even able to go further and conclude the behaviour they adopted in their attempt to attain net gain goal. We have constructed figure 7 to provide a visual explanation encapsulating our study process in answering our research question.

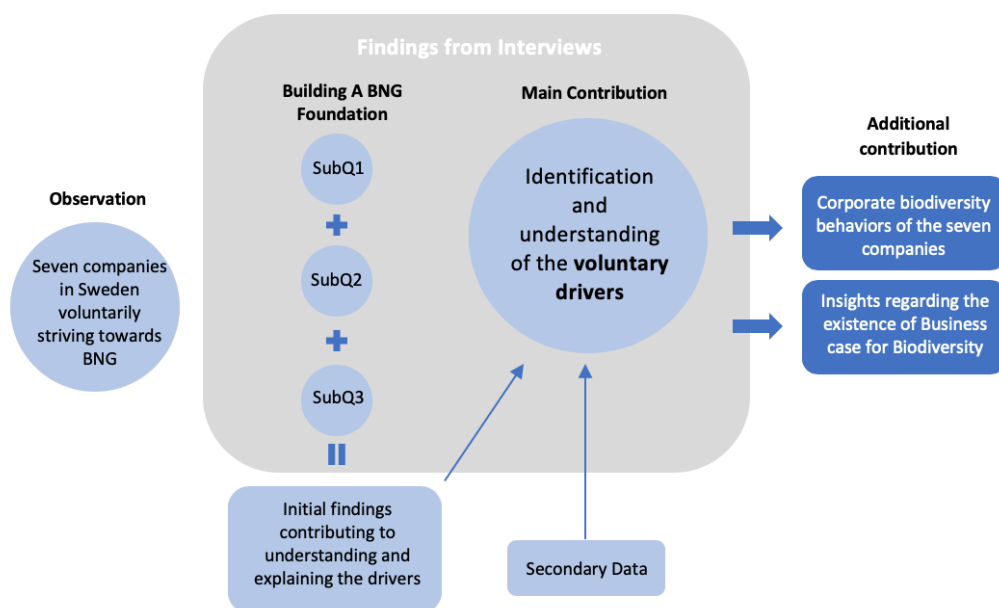


Figure 7. Visual Representation Summarising Our Research Process

7. Conclusion

Under this chapter, we present our conclusions to this study and its research question. Initially, we encapsulate our main findings from the previous chapter to remind readers about them. Afterwards, we shed light on the various contributions we expect this research to deliver starting with the theoretical, methodological, practical and finally the societal ones. Towards the end, we state our limitations and suggest recommendations for future research.

7.1. General Conclusions

In this study, we aimed to determine the drivers that encouraged seven companies in Sweden to voluntarily work towards achieving BNG's goal. In doing this, we aimed to bridge the existing research gaps. One main gap concerning BNG strategy is the scarcity of academic research on the topic. This lack of focus is most mostly pronounced at the level of BNG's drivers that encourage companies to embrace it. Overall, as we delved further into the topic, we realized that BNG is not only overlooked in terms of its drivers but also lacked a clear understanding of how it can be brought under business, an identification of the stakeholders mostly influencing it and its ensuing implications (opportunities, risks and restrictions). We acknowledge the novelty of BNG's concept and its need for an improved understanding as to emphasize its importance. Hereby, embarking from an observation in Sweden on seven companies engaging with BNG, we focus the purpose of our study to explore the drivers that encouraged the latter to voluntarily strive towards net gain goal. Herein, we do not only accentuate the voluntary drivers, but we also offer a holistic approach covering an understanding of BNG strategy, the main stakeholders affecting it and its probable implications. In essence, we researched answers for three sub-questions to add knowledge to BNG's topic, to capture and better explain the companies' voluntary drivers along with their behaviour towards net gain goal.

Sub-questions:

1. *What is Biodiversity-net-gain?*
2. *Who are the different stakeholders involved in the process of striving towards net gain goal?*
3. *What are the different opportunities, risks and restrictions that companies face when striving towards BNG's goal?*

Research Question:

What are the drivers that encouraged Swedish companies to voluntarily work towards achieving biodiversity-net-gain?

To achieve our purpose, we initially focused on providing insights on BNG's emergence history. In this, we reached back to the origins of biodiversity and business betrothment and we tried to pick up the trails of biodiversity strategies to draw a historical line on how BNG has emerged. Throughout our literature review, we leaned upon a combination of resources to offer answers to our three sub-questions. Overall, theoretical findings at this level only revealed insights on what BNG is in theory. However, a limited understanding on how BNG manifests in business was excavated. Likewise, no clear information was stated concerning BNG's stakeholders nor its practical implications. We, herein, combined the theoretical findings with our empirical results from the interviews to deliver solid answers to our three sub-questions. Additionally, to fully accomplish our research purpose, we also have adopted a model by Schaltegger et al. (2012). The model is a table that depicts a list of core drivers under business

case for sustainability and labels companies' corporate strategy types (defensive, accommodative and proactive) within each driver. Our goal behind using this table was mainly to see if the drivers for sustainability can be matched with BNG's and to explain the behaviour of the interviewed companies in aiming for net gain goal. To ensure we capture a maximum number of voluntary BNG's drivers, we combined Schaltegger et al. (2012)'s list of drivers with one more driver from our literature review and we formed the final list of BNG's drivers to apply it in the context of Sweden.

To be able to answer our research question, we have developed and followed a detailed methodology. In this, we have adopted a qualitative research design with a comparative and explanatory nature. We have equally followed both an inductive and deductive approach and used an interpretivistic viewpoint. Then, we have collected secondary and primary data about the seven participant companies in Sweden in order to form a multiple-case study. In doing that, it was very important to respect the wishes of our participants in terms of ensuring their anonymity and securing the confidentiality of particular information we were given.

In general, by combining findings from our literature review and primary & secondary data collection, our study was able to generate noteworthy results. We have found out that none of the companies has revealed in its official publications that it is formally striving toward net gain goal. Additionally, we have discovered that these companies are on a different level in terms of their progress towards BNG's goal in Sweden. Businesses within the mining industry (Company A and Company D) were found to be more progressed in their work. They are actively engaging with more biodiversity enhancing activities and taking a more formal plan towards achieving zero net loss goal as an initial step toward their longer-term objective of net gain. Against this background, we have linked their advanced BNG status to their dependency on ecosystem services. On another note, businesses under both energy (Company C, Company B and Company F) and organic food industry (Company E) were found to be less progressed in their BNG's work with the exception of Company C. We acknowledge the latter as the most progressed among this group. All these four companies do engage with biodiversity enhancing measures, still they are more focused on reducing their negative impacts. Surprisingly, we have learned that Company G (real estate) is the least progressed among all the seven companies since it has not yet engaged with BNG's practices. We, however, found that it is on the verge of initiating its actions directly towards net gain goal. Overall, we constructed a continuum to illustrate the seven companies' progress with BNG's goal in Sweden. However, due to insufficient information, we were only able to determine their position in terms of the industries and not among each other.

With respect to our first sub-question: understanding what BNG is in practice, we found seven ways defining what BNG is when the concept is applied in business. Companies can engage with BNG's goal through restorative activities. Their objective here is to improve areas that are directly connected with the company's project site such as in the example of fish farming and building fish ways in rivers. Contrary to this, BNG can also take the form of compensatory actions on areas that are off the companies' projects sites. Here, companies could compensate by improving the conditions of certain areas, for example, by restoring lost habitats or creating new fitting conditions for species. To embrace BNG also means to engage with biodiversity-related research as to increase its knowledge and find solutions to run the business in a biodiversity-oriented way. On another note, it becomes crucial for businesses to find a way to finance their biodiversity enhancing activities. In some of our cases, BNG had this role as it took the form of collaborations. We found that some companies chose collaboration with other businesses as a cheaper way to establish funds for BNG's actions and to be part of net gain

initiatives. On the other hand, we found mitigation banking to be an appealing way to engage with biodiversity enhancing activities for Company A and Company C. This method is not popular yet in Sweden. However, the willingness of the latter to strive towards BNG under mitigation banking can spark the interest of other businesses, especially if it is impossible for them to physically mitigate for their biodiversity losses. Lastly, BNG also takes the form of a systematic change in terms of how the companies can affect the authorities within this strategy in Sweden. Such change involves an attempt to draw the attention of Swedish authorities and encourage them to create assisting legislations in order to support the existing companies with their work while attracting more potential businesses.

In line with our purpose to answer the second sub-question, our study yielded useful insights regarding BNG's stakeholders. Leaning on our findings from the literature review and our interviews, we found out that the primary internal stakeholders are the employees. By employees, here, we mean all the working staff at the different organizational levels including the environmental experts. However, comparing this result with what the literature is saying about internal stakeholders, we found out that employees are not only interested in the economic performance of their companies. According to our interviewed companies, the motivation to work towards net gain goal can rise itself from the employees such in the case of the environmental experts. Similarly, we realized that employees are among the companies' drivers to engage with biodiversity enhancing activities. The purpose here is to motivate their current employees and gain their support. Concerning the external primary stakeholders, we found NGOs, local communities, shareholders, customers and potential employees to be the most common and important when working with BNG's goal. They have a high salience compared with the secondary external stakeholders, namely the current and future legislations. In this respect, our empirical findings were only able to confirm the important role of NGOs as they exemplify the companies' responsiveness to stakeholders. In general, this study identified the most influencing stakeholders under BNG practices. It also concluded that stakeholders are not only important but also form a major driver for companies to voluntarily seek meeting their expectations and demand.

Our third research question sought to gain insights on the implications of striving towards BNG's goal. Both the negative (risk and restrictions) and positive (opportunities) implications were explored. When comparing the identified BNG's opportunities with those of NNL from our literature review, we found that both strategies have 'operational', 'regulatory & legal', 'reputational' and 'market & product' opportunities. However, unlike the case for NNL, BNG was not found to offer any benefits under financing category. Interestingly, we were able to identify a new category of opportunities under BNG which is 'social and economic value'. The latter is connected with helping companies build communities and create more job opportunities. Overall, we can say that both NNL and BNG almost share the same categories of opportunities. However, within each class, they still present different benefits. We concluded that those opportunities are likely to function as potential voluntary drivers for future research and companies interested in BNG. Implementing a BNG strategy was also found to engender risks and restrictions. Paralleling them with those of NNL, we were able to confirm that BNG also has 'operational', 'reputational' and 'regulatory & legal' risks. Still, we found no support for that striving to achieve net gain would contain risks within 'market & products' or 'financing' risks and restrictions. On the contrary, we were able to identify a new risk relating to the complexity of communicating BNG to the different stakeholders due to its novelty and knowledge scarcity. Again, working towards either NNL or BNG's goals engenders risks that could be classified under similar categories. However, our identified risks and restrictions did not exactly match those under NNL. We conclude that BNG's negative implications constitute

a lingering threat to companies' credibility if their BNG's statements cannot be properly supported and their net gain promises are not fulfilled.

Embarking from the overall findings on the sub-questions and the drivers' part, we were finally able to answer our research question. Herein, we found that BNG's voluntary drivers matched the updated list of drivers which we have based on Schaltegger et al (2012)'s model and the insights from the literature of CSR approaches. These drivers are: *cost and cost reduction, risk and risk reduction, sales and profit margin, reputation and brand value, attractiveness as employer, innovative capabilities and stakeholders' expectations*. Interestingly, we were able to identify a new driver which we have termed '*health and wellbeing of future society*'. Under this driver, we realized that engaging with BNG actions serves an additional purpose other than increasing biodiversity. It, eventually, contributes to a better health and wellbeing of the society since BNG's actions are in direct contact with the environment. Likewise, since BNG efforts can be physically observed or interacted with, we found that embracing net gain goal is more likely to encourage people to support the company more than under non-observable practices (e.g. reduction of CO₂). Likewise, in applying our updated model of Schaltegger et al. (2012) on the interviewed companies, we have come to realize that the majority of them are currently proactive in their behaviour under the different drivers. We, eventually, concluded that these seven companies, which were described as the most ambitious in terms of BNG's goal in Sweden, have indeed a proactive biodiversity behaviour. Their voluntary efforts are already making a substantive step towards a better biodiversity status and a change of businesses practices in Sweden.

7.2. Contributions

7.2.1. Theoretical Contribution

Leaning upon our findings and conclusions, we aimed to add a theoretical knowledge to the research field of biodiversity and business. Essentially, we maintain that our theoretical chapter presents insights on how BNG strategy has become engrained in companies. In this context, we reached back to the history of sustainable growth plans for businesses and we provided knowledge on the origins of BNG strategy. Additionally, our study endeavoured to sketch an indirect timeline on which concepts originated in this respect and how they emerged and led to one another. This was accomplished by providing an understanding on ecosystem services, CSR, corporate sustainability strategies, business cases of/for sustainability to eventually business case for biodiversity and its strategies (BNG and NNL).

Touching upon the model we have used to explore the voluntary drivers of the interviewed companies, we believe we have contributed to the model of Schaltegger et al. (2012). We have adopted it, added two more drivers to the list and applied it in the context of Sweden. In doing so, our updated list of drivers did not only determine the interviewed companies' drivers but also extracted theoretical insights on their voluntary behaviour behind striving for BNG. We, Hereby, sought to contribute to the theoretical body of biodiversity and business in terms of the drivers that encourage companies to embrace it.

The second theoretical contribution is associated with providing a holistic approach on the main framework that companies use to apply NNL and BNG strategies. Essentially, we intended here to give a deeper understanding on mitigation hierarchy, NNL and particularly, BNG. We initially explained mitigation hierarchy's different stages, how each is implemented by companies while thoroughly presenting the framework's limitations. In a similar manner, our study equally sought to show how NNL and BNG emerged and connected. By combining our theoretical and empirical findings, this study delivers a comprehensive evaluation of both NNL

and BNG in terms of implications. We, hereby, maintain that we have contributed to biodiversity academic research by providing new insights on the theoretical side of biodiversity strategies.

In its essence, this study explores the voluntary drivers behind working with BNG strategy, which is a lightly unexplored topic in academic research. From this perspective, we consider this study to be a ‘pilot’ attempt to build and deepen the existing theoretical knowledge of BNG strategy. In our attempt to answer the research question, we provide theoretical insights on what the concept features in theory and what it means for companies to work with it in practice. We also sought to build knowledge in terms of who the stakeholders are under BNG and the implications it engenders. All findings, herein, led us to add to the research field of BNG’s drivers and identify what encourages companies to voluntarily incorporate it. By answering our research question and sub-questions, we hope our findings offer future researchers a theoretical base, on which they can lean, to advance on the topic.

Because we have conducted the semi-structured interviews in Sweden, our findings about BNG’s voluntary drivers and expected implications can be transferred to businesses in similar contexts. Applying our theoretical framework in other countries (in Scandinavia or in northern Europe) can be useful to explain the behaviour of other companies towards net gain goal. More ambitiously, it can trigger future researchers’ interest to explore the reasons why other businesses are not yet incorporating BNG strategy. Ultimately, although we aimed to theoretically contribute to the topic of BNG’s voluntary drivers, we admit that it was not completely possible to breach all research’s gaps. Still, we could say that we have contributed with a comprehensive understanding on biodiversity and business, particularly BNG’s voluntary drivers.

7.2.2. Managerial and Practical Contribution

By putting BNG strategy under light, we believe this study could help businesses worldwide gain an improved knowledge about realizing net gain. This study equally seeks to raise the awareness of the corporate level regarding the urgent situation of biodiversity loss. The goal here is to encourage companies to be part of the solution instead of the problem in the realization of development plans. Interestingly, we maintain that our findings are not exclusive only for managers who base their projects on the ecosystem (e.g. land use), but also could be of practical use in the field of entrepreneurship. Essentially, socially and sustainably-oriented entrepreneurs might find our findings beneficial for them. This is due to that they aim to achieve an economic function, while generating value to both the environment and society.

With regard to employees, revealing the voluntary drivers of net gain goal and determining its positive contributions to companies can sensitize employees towards the importance of biodiversity. Hereby, our findings help send a call for employees to take part in biodiversity as to push their corporate department to adopt BNG strategy. Being an active part to biodiversity concern can also enhance employees’ performance and motivate their commitment to their jobs. Especially when they see themselves part of a corporation that aspires to make a positive change to the environment.

Another contribution is linked to companies’ current position on net gain goal and their current experience with BNG strategy. By exploring both positive and negative implications of following such goal, our study offers other businesses insights on what could be avoided when working toward net gain goal. The information we provide is based on concrete examples from different industries actively working with NNL and BNG strategies. This adds more credibility

and emboldens other companies to follow our participants' footsteps. This is largely connected to our goal to contribute to the overall companies' performance. Factually, determining the arising opportunities when working with BNG strategy and revealing the important role of stakeholders can entice companies to follow the same path to gain their support and society's acceptance. Often, obtaining project licencing from permit issuers is a lengthy and complex procedure for any industry. By providing examples on how BNG strategy assisted the participant companies in managing such issue, we maintain that our study enlightens other businesses in overcoming in-practice challenges.

Lastly, we believe our study takes part in increasing authorities' awareness. Explaining how BNG emerges as a solution for businesses' environmental damages sends signals to concerned parties and authorities in Sweden as to engage with more promising actions to save biodiversity situation. For instance, our findings can stimulate government to make interventions in regards with the harmful corporate practices and facilitate measures for businesses to incorporate BNG strategy. On a larger scale, we hope our research could voice a message to persuade authorities worldwide to provide further support to companies that are willing to achieve an environmental positive impact.

7.2.3. Societal contribution

Ascribed to the positive outcomes of BNG strategy on businesses and the promising ability of the former to halt biodiversity loss and reverse it, social contributions could be spotted. Our study aimed to cast light on biodiversity's dire situation and to highlight how linking BNG's goal to companies' operations can aid them in progressing with their development plans with less fear and risks on people's well-being. On the one hand, this study help raise companies' awareness on how BNG strategy can reduce backlash from environmentally-concerned individuals and parties. It can embellish businesses' reputation and aid them gain the support of people. In addition, we hope with our explorative research to help raise community's awareness on how biodiversity loss is linked to businesses. We aspire to give people and specifically owners of lands, that have been targeted by some industries, a voice to speak and disapprove of the environmental damage endured. Hence, we believe that the greater knowledge we provide about BNG strategy could be employed to persuade concerned authorities to act on the matter. When we look towards the future, we hope that companies in different industries take notice of the BNG's opportunities we have pinpointed to. Harvesting the benefits of engaging with net gain goal helps reduce businesses' harmful impacts on society and contributes to the general societal wellbeing. Likewise, being aware of the existing risks of BNG strategy and having a better grasp of which stakeholders influence its implementation the most, allow businesses to achieve a greater impact on the environment. By halting and reversing biodiversity loss through an optimized understanding of the strategy, firms can enhance life quality of both the employees and citizens. We hope our insights encourage the corporate level to engage further with all their staff and have more discussions with them to promote the importance of biodiversity for societies' survival. Companies educating their employees about biodiversity responsible practices on the personal level help them become better citizens as we reason that every change starts within oneself. As authors of this thesis and citizens of the world, we believe that every small creature, animal and plant plays a role in maintaining the balance of our planet and every large change begins with small individual adjustments.

7.3. Limitations

In accomplishing this study, we faced several limitations which we have previously mentioned under introductory chapter. The first limitation is connected with the topic's lack of rigorous

research. The insufficiency of academic research on BNG strategy, generally, on biodiversity from a business angle, might have constrained our understanding of the topic. This has limited our resources to companies' annual reports and BNG publications. In this respect, we could say that if we had accessibility to previous research on BNG, our study would have had greater academic rigour.

The second limitation is linked to primary data collection and findings. On the one hand, we have selected what we perceived as the most ambitious companies in Sweden that work with biodiversity strategies and strive towards net gain objective. These companies, nevertheless, form a small network to interview (only seven). Hence, we could see that our findings are quite limited and do not encompass all possible voluntary drivers of other companies that are possibly working toward BNG's goal in Sweden. On the other hand, we have gathered data that only concerned businesses operating in a specific context: Sweden. Here, we realized that our interpretations and conclusions cannot apply on dissimilar contexts such in emerging economies as they do not have the same legal, economic and social characteristics. Businesses, in the latter context, might not reflect equal environmental ambitions or have the same drivers to address biodiversity concern. From this perspective, we cannot allege that we have a representative set of voluntary drivers that exemplify every company worldwide.

Another limitation is rooted in our choices of both theoretical and practical methodology. For example, the adoption of interpretivism paradigm might have unintendedly tinted our study with a shade of subjectivity.

When it comes to language barrier, we have mentioned under methodology chapter that we have conducted one interview (the longest) in the participant's native language (Swedish). Although, it was transcribed and translated to English by Christian (native speaker), it is possible that information was misunderstood or might have lost some meaning. Here, the language barrier can affect our findings both in how our questions have been asked in Swedish. The translation itself can impact how the interviewee perceived our questions. More likely, our translation might not be perfect in relation to some terms, seeing that we have researched and studied biodiversity topic in English, and we have had all other interviews in English. In this context, we realized that our translation could have missed important details that could otherwise make a difference.

Eventually, we acknowledge that our study is a bit lengthy which could impact our readers' focus when following up and evaluating its quality. Also, due to time and space restrictions, we were obliged to be more concise in some sections compared to others that were more thoroughly explained. In view of all these limitations, it is fair to say that we tried to reduce some by providing readers with rigorous understanding on BNG and its voluntary drivers while implementing our quality criteria.

7.4. Quality Criteria

The topic of quality criteria has developed into one of the central research discussions in both quantitative and qualitative studies. Notably, the burgeoning of the latter type of research, over the last three decades, is considered one of main grounds that led to such growing interest (Bryman et al., 2008, p. 261-262). In essence, once findings have been presented, it becomes crucial to adopt certain criteria to assure the readers about the research's "*scientific nature, its quality and trustworthiness*" (Eriksson & Kovalainen, 2008, p. 290). From this perspective, we would like to remind the readers about our recurrent evaluation within the theoretical methodology (see section 3.2 of chapter 3) and throughout the course of our research process.

We believe we have acknowledged the consequences of embracing our choices of philosophical and methodological standpoints. It is also important to point out to the ethical consideration which we have fairly accentuated under our practical part of the research (see section 3.4 of chapter 3). More to the point, we have underlined and strived to implement four ethical codes which were introduced and described by Bryman (2012, p. 135). Our ethical considerations were also accompanied by three necessary quality criteria; reliability, replication and validity which were also adopted from Bryman's social research methods (2012, pp. 46-49). Lincoln and Guba (1985), in connection to this, have similarly introduced and used another set of criteria known as 'trustworthiness' in assessing the quality of qualitative studies (Bryman, 2012, p. 390). In its essence, trustworthiness incorporates four aspects; 'credibility', 'transferability', 'dependability' and 'confirmability'. According to what Bryman (2012, p. 390) debated on, the first three aspects (credibility, transferability and dependability) are annotated as substitutes for validity and reliability criteria under qualitative research. Against this background, we have decided to equally implement trustworthiness's four quality aspects to evaluate our research.

Starting with credibility, the term concerns the believability or feasibility that the researcher believes she/he arrived at, which decides the study's acceptability to others (Bryman, 2012, p. 390). In order for a research to be credible to the audience, it has to be based on solid practices and it must deliver findings to the "*members of the social world*". These individuals are to study and evaluate the research to confirm whether or not the researcher has managed to properly understand the investigated reality (Bryman, 2012, p. 390). On another note, Eriksson and Kovalainen (2008, p. 294) also explored this criterion and maintained that a research's credibility is dependent upon abundance of data provided to help other researchers attain the claimed interpretations. Likewise, the study must deliver a reasonable link between the findings and its other parts (e.g. theoretical framework) (Eriksson & Kovalainen, 2008, p. 294). In light of this, we acknowledge that our discussions and findings' analysis were driven by an interpretivist standpoint. Nevertheless, we sought by using semi-structured questions to capture plentiful and real-case data central to our topic (voluntary drivers of BNG). Herein, we wanted to ensure that we deliver an improved understanding on business and biodiversity grounded on existing companies. In addition, we tried to sort out our findings and analyse them in a way that they become in line with our theoretical chapter. Credibility may not be a criterion that can be easily fulfilled. We believe our research might not have reached full credibility, but then future research exists to build on this study and reach other outcomes.

The second criterion is transferability and it refers to findings' ability to be applied in other contexts while ensuring a degree of relatability between them and early research results (Eriksson and Kovalainen, 2008, p. 294). The rationale behind transferability is to allow a researcher to create a connection with other findings as to build a database which readers and future investigators can use in judging transferability of reached conclusions (Bryman, 2012, p. 392). Relating this matter to our topic, we have stated in earlier sections that biodiversity strategies, and specifically BNG, is a newly emergent topic where few academic studies have addressed it or its voluntary drivers. In spite of that, we leaned upon publications by companies and environmental institutes along with annual reports to overcome the situation. Likewise, we reached back to several sustainability and environment-related journals to explore how BNG strategy came to be. In this, we established an association between it and ecosystem services, CSR, business case of/for sustainability, mitigation hierarchy and eventually the former biodiversity strategy NNL. When it comes to practical work, we have shown how we went about primary data collection throughout our interview guide and protocol. This was done to equally help future researchers understand our logic and correctly re-apply our study under

different settings. At large, we believe we have acknowledged previous research work and linked it to our research to stay true to transferability aspect.

Dependability is more focused on ensuring that full records are kept on all the different stages throughout the research conduction (Bryman, 2012, p. 392). This entails keeping “*problem formulation, selection of research participants, fieldwork notes, interview transcripts, data analysis decisions, and so on in an accessible manner*” (Bryman, 2012, p. 392). The goal from dependability criterion is to allow other researchers to re-conduct the study and attain similar outcomes under the same context. In keeping up with dependability aspect, we have thoroughly explained both our theoretical and methodological process. We tried to constantly remind the readers of our purpose and explain each section. Moreover, we have designed the interview guide and protocol to equally serve dependability’s purpose and make it explicit for readers how we collected every piece of information and the reason behind it. In addition, we have also kept a record of the transcribed interviews, however these will remain confidential for ethical purposes.

The final trustworthiness criterion is conformability and it deals with researcher’s objectivity (Bryman, 2012, pp. 392-393). It should be evident for readers that results are not reflecting researcher’s personal preferences but what was generated in reality. Furthermore, a study is said to be conformable when there is a smooth transition and logical connection between research results and the interpretations to make sure that readers can easily apprehend them (Bryman, 2012, pp. 392-393). Evaluating our research from this perspective, we have adopted the same order of drivers under business case for sustainability (see section 2.2.1). The purpose, here, was to analyse the answers, sort them, find logical connection between them and use them to determine the corporate sustainability strategies used by our seven participant companies (defensive, accommodative or proactive). This same order was, similarly, used under our interview guide (drivers’ checklist) to make it easier for readers to spot the followed logic in identifying the voluntary drivers and understanding the discussion chapter.

7.5. Future research

In light of the insights we have captured in this study, we present some suggestions in regard to the future research. Our first recommendation concerns the newness of BNG’s topic in academic research. BNG strategy is considered as new knowledge and our findings have equally confirmed it. Hereof, we suggest further exploring the topic of BNG and applying our model on more dissimilar contexts to discover additional voluntary drivers that we did not capture. Furthermore, targeting other contexts could help build on the insights we provided and touch upon other gaps we have probably missed. In essence, applying our model in other countries is likely to develop academic research on BNG strategy and captures other angles to evaluate companies’ behaviour towards it.

Our second suggestion for future research is to rather focus on mainly answering the research question concerning BNG’s voluntary drivers. As we previously stated, we aspired to target three sub-questions (comprehensive understanding of BNG, its influencing stakeholders and its implications). We reasoned each sub-question would bring us closer to understanding companies’ voluntary drivers and explaining their behaviour towards net gain goal. Consequently, we ended up with a holistic study on BNG topic. This has, nevertheless, limited our study from further expanding on participants’ voluntary motivations. For future research, we believe it would more beneficial to solely concentrate on companies’ motivations and engendered positive outcomes to unearth more explanations to encourage other businesses to align with net gain goal.

In connection to our limitation of the small pool of interviewed participants, we reckon it would be more interesting to parallelly cast light on companies that are not engaged with BNG strategy. In this, establishing a comparison on voluntary drivers between businesses that engage with biodiversity enhancing activities with those that do not, can explain the reasons why there is a lack of interest in BNG. More specifically, it would attract authorities' attention on how to improve biodiversity and business' situation in Sweden, while enriching biodiversity research field. Comparing both types of companies (those that embrace net gain goal and those that do not) can bring a positive contrast, inspire and show the potential businesses why it is beneficiary to embrace BNG strategy.

Lastly, we acknowledge that our study is mainly restricted to the Swedish context where BNG legislation is absent and companies' efforts towards net gain are purely voluntary. However, it would be interesting to see in the future research if businesses in countries, where biodiversity strategies are enforced by legislations, are achieving superior BNG progress and if the benefits are larger under such circumstances. Future studies could even build on our thesis's ground to investigate if such voluntary initiatives are sufficient to halt and reverse biodiversity loss or if there is a need to make BNG's goal an obligatory condition to operate on lands.

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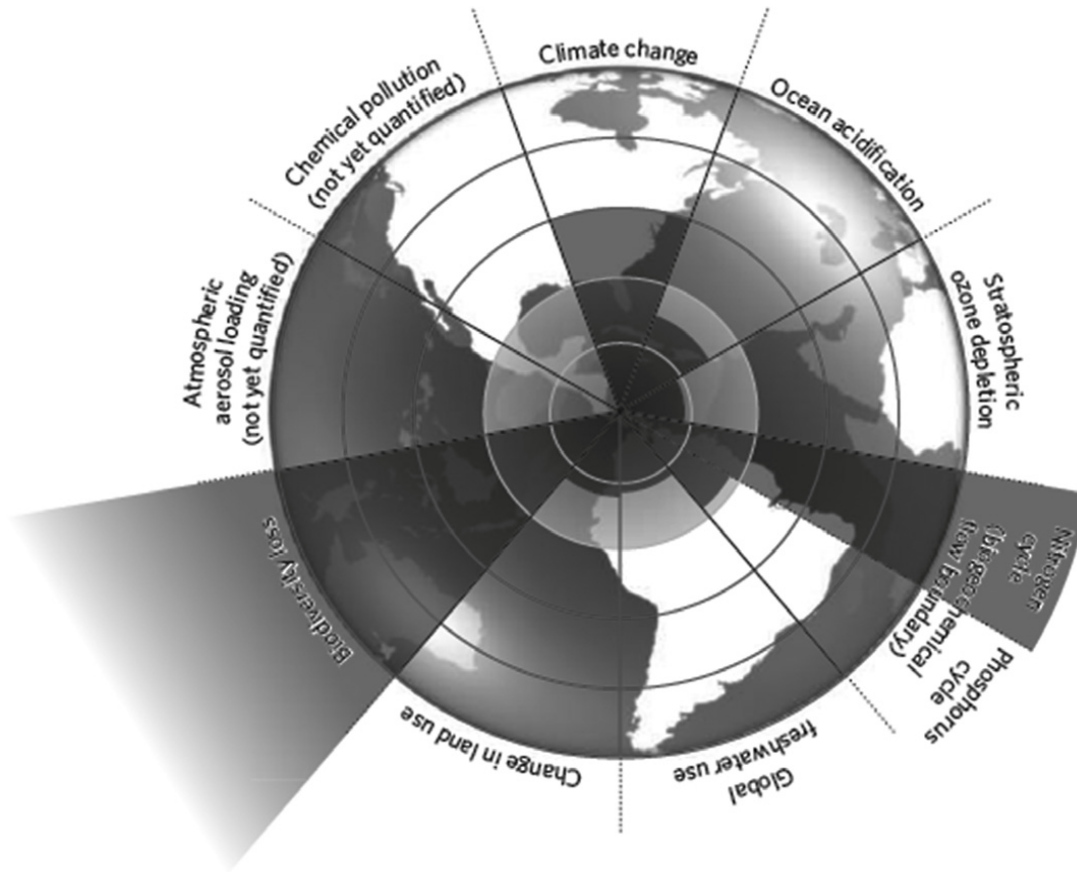
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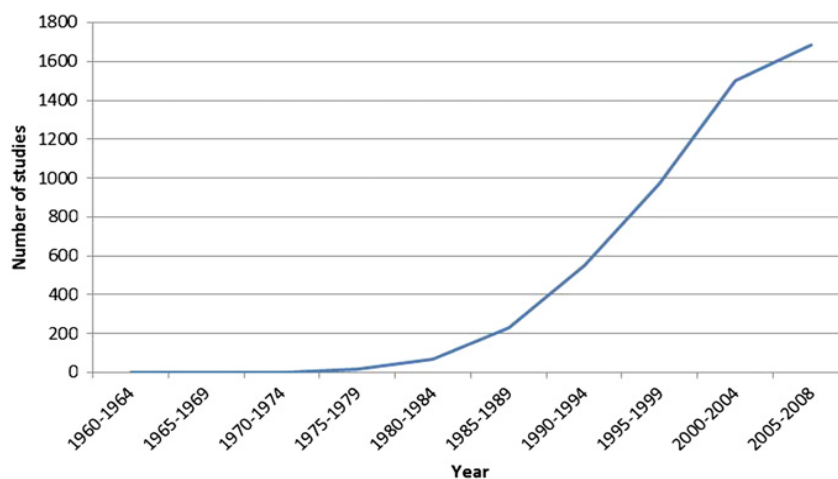
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Appendix

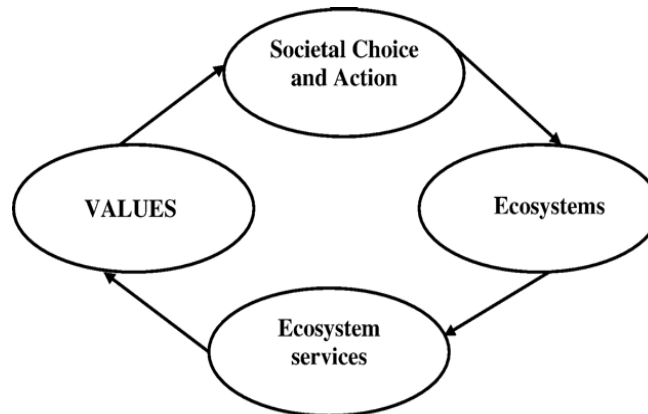
Appendix 1: The Nine Planetary Boundaries (Whiteman et al., 2013, p. 315)



Appendix 2: The cumulative growth of valuation studies on ecosystem services (Groot et al., p. 51)



Appendix 3: Circular Link Between Ecosystem Services and Corporate Economic Values (Kumar & Kumar, 2007, p. 809)



Appendix 4: Emerging Markets for Biodiversity and Ecosystem Services (TEEB, 2010, p. 11)

Market opportunity	Market Size (US\$ per annum)		
	2008	Estimated 2020	Estimated 2050
Certified agricultural products (e.g. organic, conservation grade)	\$40 billion (2,5% of global food and beverage)	\$210 billion	\$900 billion
Certified forest products	\$5 billion of FSC-certified products	\$15 billion	\$50 billion
Bio-carbon/forest offsets (e.g., CDM, VCS, REDD+)	\$21 million (2006)	\$10+ billion	\$10+ billion
Payments for water-related ecosystem services (government)	\$5,2 billion	\$6 billion	\$20 billion
Payments for watershed management (voluntarily)	\$5 million Various pilots (Costa Rica, Ecuador)	\$2 billion	\$10 billion

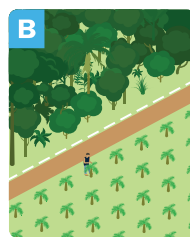
Other payments for ecosystem services (government supported)	\$3 billion	\$7 billion	\$15 billion
Mandatory biodiversity offset (e.g., US mitigation banking)	\$3,4 billion	\$10 billion	\$20 billion
Voluntarily biodiversity offset	\$17 million	\$100 million	\$400 million
Bio-prospecting contracts	\$30 million	\$100 million	\$500 million
Private land trusts, conservation easement (e.g. North America, Australia)	\$8 billion in U.S. alone	\$20 billion	Difficult to predict

Appendix 5: Illustration of the Mitigation Hierarchy Applied in the Example of Palm-Oil Industry

(Arlidge et al., 2018, p. 337)



Left: Pre-plantation, or original state of the area prior to palm oil plantation.



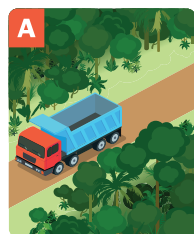
Step 1. Avoid

Avoid deforesting primary growth rainforest, or forest areas containing high levels of biodiversity or protected species. Example: Protected Area closure or new site selection following stakeholder consultation.



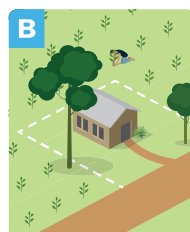
Step 2. Minimize

Minimize harm to biodiversity by adhering to best practice growing and extraction practices. Example: limiting the footprint of heavy machinery used to extract and transport palm oil to specific areas and ensure any runoff is contained to prevent polluting watercourses.



Step 3. Remediate

Remediate the biodiversity loss within the oil palm site. Example: replanting cleared areas of forest following road infrastructure development.



Step 4. Offset

Residual additional damage caused by the oil palm development through improvement of rainforest elsewhere. Example: Local areas with degraded rain forest is replanted near the development site.

Appendix 6: Email Template for Interviews' Request

Dear Mr./Dear Mrs [...],

We are two Master students reaching out to you from Umeå University in Sweden and writing their final dissertation about Biodiversity and Business. The research's topic concerns the drivers that encourage companies to voluntarily strive to achieve a positive gain on the ecosystem, in the absence of legislation.

To validate this request, we attach a "confirmation letter" from our supervisor Ms. Zsuzsanna Vincze, to certify our genuine intentions to conduct the interview with your full consent.

We would like to bring in to your kind notice that the idea to contact you was initially embedded in Mr. Anders Enetjärn's recommendations regarding the few Swedish businesses that are actively striving to voluntarily achieve positive impact on the environment. The idea to focus on this subject ascended due to our interest as business students to cast light on such companies and to investigate their motivations to side with biodiversity loss from a concrete corporate perspective.

In order for this research to be completed, we are currently contacting the seven recommended companies by Mr. Anders Enetjärn for potential interview partners. We are willing to conduct the interviews either by being physically presented at your location or, if possible, via skype or Google Video Call. In this, the interview will range between 60-90 minutes and will not entail any kind of preparation. Before the actual interview, we are willing to contact you again and send you detailed information about our profile and the interview's question points. We are mostly interested in running the interview in the beginning of April and are quite flexible with date and time.

Since one of us is a non-Swedish speaking student and thus, Swedish might not aid us to fully grasp the meaning behind given information, we ask you benevolently to interview you in English.

We must inform you that we make a pledge according to Umeå University's rules to ethically carry out the interview where all given data will be anonymously handled and protected during and ensuing the completion of the thesis. It is important to let you know that this dissertation will be published; however, under no circumstances will it enclose any private information revealing your identities. Also note that at a subsequent date, a separate release version will be sent to you as well, prior to the publication.

We will be very thankful and delighted to win your acceptance for this interview. Your participation is quite valuable as it will not only help us understand the business strategy of biodiversity net gain but will equally open doors for future researchers to carry on investigating this novel research field.

We are looking forward to hearing from you.

Best regards,

Christian Sjöland & Anna Goaiad,

Appendix 7: Interview Request Permission from Supervisor

Recommendation
Zsuzsanna Vincze
zsuzsanna.vincze@umu.se
090-786 64 96
Ref.192703

2019-03-27
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INTERVIEW REQUEST FOR MASTERS THESIS

I would like to confirm that Amna Goaied and Christian Sjöland are enrolled at Umeå University (Umeå, Sweden) and undertake their Master studies in the programs of Business Development and Internationalization and Finance. To fulfill the program requirements, they must write a Master thesis jointly.

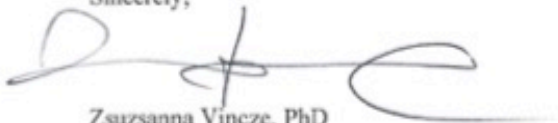
Therefore, the students are currently in the process of composing their thesis on the topic "Biodiversity and Business: Multiple Case-Studies on Biodiversity Strategy in Sweden". As part of their research, they are required to do field work (e.g., interviews) in various organizations. The field work together with the theoretical part, is part of the requirements at our School. We encourage students to collaborate with organizations such as yours in order to obtain relevant knowledge in the field of their interest area through empirical research.

Amna and Christian are committed to use and save all data cautiously, ensuring the anonymity of the respondents and interviewees. The ethical issues related to this research are the same as in any business research. The respondents and interviewees will be informed of the purpose of the research and their anonymity will be protected.

I hereby request you to accord them the opportunity to carry out this research in your organization by offering them the necessary support to enable them to complete their thesis successfully.

In case of any further queries or clarifications on this matter, please do not hesitate to contact me.

Sincerely,



Zsuzsanna Vincze, PhD
Associate Professor

2019-03-27
Umeå

Appendix 8: Data Collection Protocol and Interview Guide

Interview Guide		Interview Protocol
Introduction		
<p>-We would like to thank you for accepting our invitation for the interview and dedicating your time and effort.</p> <p>-We introduce ourselves and state who will be guiding the interview's question and who will be responsible for taking notes.</p>		Open the interview, introduce each other and break the ice with the participants to form a friendly atmosphere before starting with the interview questions.
<p>-We state the purpose of the study: Identify the voluntary drivers for working towards achieving a net positive gain, while providing an understanding of BNG strategy, its stakeholders and resulting implications (opportunities, risks and restrictions).</p>		Remind the participants with the study's purpose so they have a clear picture what it is about and prepare them for the questions.
<p>-We would like to ask your permission to record the interview session if that is possible?</p> <p>-Recording will help us review the answers once more, which helps us now better focus on listening and guiding the interview.</p> <p>-We pledge to keep the recording and the provided information confidential and anonymous if you wish.</p> <p>-If you also wish, the report will not disclose your name nor the company's and all provided data will be remain confidential.</p> <p>-If you perceive any unclarity with the questions, please do tell us to rephrase.</p> <p>-If you wish not to answer a particular question or to stop the interview for a reason, you have the right to do so.</p>		<p>Ask for participants' permission to record interview sessions and ensure data confidentiality under interviewees' wishes.</p> <p>Inform participants about their right not to answer some questions or to stop the interview when they have a reason for it.</p>
Biodiversity strategies' Questions		
<p>Before delving into the voluntary drivers for biodiversity, we would like first to discuss your company's biodiversity strategies and how you have been addressing the issue of businesses' negative impacts on the environment.</p>		Under this section, our objective is to develop an overall understanding on biodiversity strategy. We explain when/how the implementation of biodiversity strategies started in participant company. We also aim to determine the chosen strategy (NNL/BNG).
No.	Question	Objective Description
1	Are you accustomed with the term biodiversity? Is mitigating biodiversity loss a part of your corporate goals?	The purpose of these open questions is to lay ground for coming inquiries and place interviewees within biodiversity framework. We initially aim to determine participant's perception of biodiversity notion and how their company deals with the issue of biodiversity loss.
2	<p>If yes, when did the notion of biodiversity, as separated from sustainability in general, started to emerge within your organisation?</p> <p>When was biodiversity strategy implemented? Who or What triggered your interest to incorporate biodiversity into your corporate strategy?</p>	<p>Establish the history of biodiversity covering how/when the notion was recognized in participant company.</p> <p>Determine when/who triggered the implementation of biodiversity as a corporate goal to achieve.</p>
3	In what way would you say your company implements biodiversity? Please explain.	Explain how biodiversity strategy is being incorporated in practice.

4	Who are the main stakeholders that influence biodiversity practices in your company?	Determine who the key stakeholders that influence and interfere with biodiversity practices of the participant company.
5	Are you familiar with the term no-net-loss biodiversity strategy?	Determine if participant company implements NNL.
6	Are you familiar with the term biodiversity-net-gain strategy?	Determine if participant company implements BNG.
7	If NNL, have you thought about moving to BNG? If Yes, why? If No, why? If BNG, did you have NNL as a strategy previously? If yes, when did you make this change?	Determine if the interviewed company considers extending NNL strategy goals. Determine if NNL was the original goal and if so, how if so, how achieving no-net-loss evolved to trying to achieve net-gain, put in time perspective.
8	Which framework have you used to comply with either biodiversity strategy?	Identify the framework (mitigation hierarchy) that was followed to attain goals of the chosen biodiversity strategy (Either NNL or BNG).
9	In practice, do you have any tools to measure your progress and physical impacts in following your biodiversity strategy so far?	Determine if participant company is making a positive impact and progressing towards achieving biodiversity protection goal.
Voluntary Drivers Related Questions		
Thank you. We appreciate your patience and abundant answers so far. Now, we would like to move on to another subject; the drivers' that voluntarily encouraged your company to implement biodiversity strategy. i.e. why do you do it?		In this part of the interview, we aim to reveal and explain the specific direct and indirect drivers that encouraged participant company to voluntarily adopt biodiversity strategy.
10	Seeing the absence of legislations, what would you believe has encouraged you to voluntarily adapt a biodiversity strategy?	comprehensive question to see and explain the overall drivers that deliberately motivated participant companies to aim for considering and applying selected biodiversity strategy.
11	Have Costs and cost reduction been a driver?	Determine if participant company's motivation is to reduce its production, legislation or operations' costs...etc (example: energy savings)
12	Have Risk and risk reduction been a driver? If yes, is illimitation of all anticipated risks is your goal here or do you only aim to keep them to a minimum?	Determine if participant company's motivation is to reduce costs of anticipated risks if it follows biodiversity strategy? [To better explain this to our interviewees, we add a follow-up question to see if these risks are largely removed or only reduced]. (example: to evade stakeholders or customers' criticism).
13	Have Sales and profit margin been a driver?	Determine if participant company's motivation is to make more profits and sell more through 'biodiverse' products instead of 'green products'.
14	Have Reputation and brand value been a driver?	Determine if participant company's motivation to embellish their reputation and market presence is an indirect driver.

15	Has 'Attractiveness as employer' been a driver? i.e. Are you seen as a more attractive employer by implementing biodiversity strategy in your company?	Determine if participant company's motivation to entice more proficient employees is an indirect driver.
16	Has innovation capability by means of biodiversity been a driver?	Determine if participant company's motivation is to achieve innovation competitive advantage among rivals. (This was the case in business cases for sustainability)
17	Has aligning with stakeholders' expectations been a driver? If yes, please describe how.	Determine if participant company's motivation is to meet and/or exceed stakeholders' expectations, gain support or reduce likelihood of scrutiny.
Implications for Following Biodiversity Strategy		
Thank you. Now, we would like to talk to you about the various implications of working with the chosen biodiversity strategy. By that, we mean the current and the anticipated opportunities, risks restrictions. i.e. What are the results of your biodiversity work so far?		We aim here to identify the overall implications of striving to achieve biodiversity strategy goal. This requires determining the benefits already generated along and the expected opportunities. Similarly, identifying implications of biodiversity strategy require us to detect negative outcomes such as the present/future risks and restrictions.
Opportunities		
18	How has changing your strategy to encompass biodiversity affected your business?	Determine the benefits of biodiversity strategy following its implementation so far and the business opportunities it offers in the future.
19	Do you perceive these benefits to be different from working with a broader sustainability approach?	Distinguish how far better or worse opportunities of incorporating biodiversity strategy are from ones generated by implementing broader sustainability approach.
Risks and Restrictions		
20	What risks or restrictions have you experienced so far, or do you expect to experience when continuing with biodiversity strategy?	Determine the existent risks and/or challenges that have been faced or yet to be experienced in progressing with the implementation of biodiversity strategy.

Appendix 9: Primary Data Analysis Table

Categories	Biodiversity in Business Practice				Stakeholders Influence on Biodiversity Practice		Voluntary Drivers			Implications	
	BNG or>NNL	What the triggers was	How can the company work with biodiversity	Framework Employed	Who are the stakeholders	General	Specific	Opportunities	Risk and Restrictions		
INTA	INTA1	INTA2	INTA3	INTA4	INTA5	INTA6	INTA7	INTA8	INTA9		
INTB	INTB1	INTB2	INTB3	INTB4	INTB5	INTB6	INTB7	INTB8	INTB9		
INTC	INTC1	INTC2	INTC3	INTC4	INTC5	INTC6	INTC7	INTC8	INTC9		
INTD	INTD1	INTD2	INTD3	INTD4	INTD5	INTD6	INTD7	INTD8	INTD9		
INTE	INTE1	INTE2	INTE3	INTE4	INTE5	INTE6	INTE7	INTE8	INTE9		
INTF	INTF1	INTF2	INTF3	INTF4	INTF5	INTF6	INTF7	INTF8	INTF9		
INTG	INTG1	INTG2	INTG3	INTG4	INTG5	INTG6	INTG7	INTG8	INTG9		

Drivers	Corporate Biodiversity Behaviours	
	Defensive	Proactive
Cost and Cost Reduction		
Risk and Risk Reduction		
Sales and Profit Margin		
Reputation and Brand Value		
Attractiveness as Employer		
Innovative Capabilities		
Stakeholders' Expectations		

Appendix 10: Table of Anonymous Sources

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Appendix 11: Sweden's Scorecard in EPI 2018 (EPI, 2018b)

Issues Categories	Rank
Environmental Health	13
Air Quality	24
Water & Sanitation	17
Heavy Metals	1
Ecosystem Vitality	9
Biodiversity & Habitat	75
Forests	126
Fisheries	80
Climate & Energy	3
Air Pollution	46
Water Resources	13
Agriculture	19

Appendix 12: Sweden's Scorecard in EPI 2018 in the Category Biodiversity & Habitat (EPI, 2018b)

Issues Categories	Rank
Marine Protected Areas	26
Biome Protection (Global)	97
Biome Protection (National)	103
Species Protection Index	38
Representatives Index	75
Species Habitat Index	135

Appendix 13: Suggestions of Law Changes in SOU 2017:34

Changes in the law

- An insertion of a demand on accounting of planned compensatory actions as an attachment in the environmental impact assessment (SOU, 2017, p. 18)
- Insertion of a mandatory requirement to meet the demand of ecological compensation (SOU 2017:34, p. 18)

A clarification of the mitigation hierarchy in the Swedish Environmental Code

- The report chooses to define Mitigation Hierarchy (Sw.: Skadelindringshierarkin) as “a hierarchical outlook where damages firstly should be avoided, secondly, as far as possible, minimized and rectified at the location and only as a last resort be compensated.” (SOU 2017:34, p. 17)

Pilot schemes of compensation pools

- Compensation pools (Sw.: Kompensationspooler) is a new term in Sweden and in this report, it is explained as that a landowner, or another actor, creates natural values in the form of increased biodiversity and ecosystem services. The values which are created can then be sold, via these compensation pools, to those who need to compensate for corresponding values, which have or will be lost at a specific exploitation. (SOU 2017:34, pp. 20-21)

Appendix 14: Coding of Interviews

Interview Code	Participant Company	Interviewees' Position
INTA	Company A	Senior Project Manager in Business Development
INTB	Company B	Environmental Coordinator
INTC	Company C	Environmental Manager
INTD	Company D	Project Leader in Sustainability Group
INTE	Company E	Manager of the Mill
INTF	Company F	Environmental Staff
INTG1 and INTG2	Company G	Environmental Managers

*INT = Interviewee