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Biodiversity and natural capital: investor influence on company reporting and performance*

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ABSTRACT

This paper presents the results of a multidisciplinary qualitative study concerning the influence of investors on the performance and dependencies of companies in relation to biodiversity and natural capital (BNC). For BNC, we employ four indicators: land use, water use, chemical pollution and carbon emissions. The study assesses: (i) in which way asset managers and fund managers exert influence on the efforts of companies to reduce their negative environmental impact and to improve their positive environmental impact; (ii) how this influence is perceived by the companies; and (iii) to what extent legislation requiring reporting on non-financial performance criteria supports the parties in their engagement and communication. Interviews were conducted with multiple investors and companies to assess in a detailed way the interaction between these parties.

Key findings include that BNC is considered material by half of all interviewed investors, that they employ available legal options in their engagement strategies, and that they use the information disclosed by investee companies pursuant to mandatory reporting law. However, company respondents indicate that investors are only interested in BNC when it is clearly and directly linked to (reduced) financial risks. These respondents stated that BNC performance as well as transparency strategies do not have any material influence on investors. Another central issue flagged by respondents is the lack of comparable and standardised information regarding BNC themes such as corporate water use, land use and chemicals. Common methodologies and standards to tackle these issues are still missing.

Based on our findings, it can be concluded that tangible strategies for successfully tackling BNC issues are absent. The approaches developed so far are not clearly enough linked to (financial) risks and opportunities in the past, present or future. The perceived effect of EU Directive 2014/95 on tackling BNC issues is also low and environmental profit & loss accounts are unable to clarify the financial relevance of BNC. Establishment of a clear nexus between BNC and financial risks and opportunities is a necessary precondition to advance BNC in future.

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*Subtitle: Assessing the request for and use of company reporting on biodiversity and natural capital by asset managers and fund managers.

1. Introduction

The rising expectations of responsible business behaviour results in a growing debate about the extent to which organisations are responsible for the (negative) impacts related to their products and services. Although the history of these rising expectations of responsible business behaviour can be described in different ways, we start in the 1950s. Since the 1950s, the social responsibilities of organisations have been under discussion, which was followed by a trend towards eco-efficiency that stimulated organisations to reduce their environmental impacts in the 1970s (Maas and Boons 2009). In response to the request to take responsibility for their effects on society, many organisations now aim to improve their impact by investing in stakeholder satisfaction and by preventing or solving environmental problems. This aligns with the trend of corporate social responsibility (CSR), embraced in multiple international guidelines (United Nations (UN) Global Compact, Organisation for Economic Co-operation and Development's (OECD) Guidelines for Multinational Enterprises, Global Reporting Initiative (GRI) Guidelines, UN Guiding Principles for Business and Human Rights), corporate initiatives, and other initiatives (World Business Council for Sustainable Development, The Dutch Association of Investors for Sustainable Development (VBDO), CSR Netherlands, Social Accountability International, the International Integrated Reporting Council) (Lambooy 2010a; van Tulder and van der Zwart 2003). Additionally, the UN Millennium Development Goals, superseded by the UN Sustainable Development Goals, also emphasise the role of business in regard to reducing the negative impacts caused by corporate activities and increasing positive impacts on sustainable development.

Implementing CSR in a business organisation also requires creating transparency about the organisation's performance with regard to CSR themes (Lambooy 2005; Lambooy, Hordijk, and Bijveld 2013). Transparency on CSR performance can be interpreted in two ways: (i) including CSR effects in financial reporting, which comprises the annual report, the balance sheet and the profit & loss account, or (ii) reporting on non-financial CSR themes in sustainability reporting. Both ways have been developed in legislation and private regulation over the last 15 years. As regards legislation, in 2003, the European Union (EU) Modernisation Directive 2003/51 was adopted requiring large companies to account in their annual report for non-financial performance indicators. This Directive was recently expanded by the EU Directive 2014/95 in terms of the content of information companies have to produce. This will be elaborated below in section 2.3. Concerning private regulation, we refer to the GRI Guidelines for Sustainability Reporting, the first version of which was launched in 2000 (Lambooy 2010b; Lambooy and Kamp-Roelands 2007). In this article, the role of information published by companies with regard to their environmental performance, in particular their performance affecting biodiversity and natural capital (BNC), is one of the focal areas.

Over the past twenty years, corporate financial reporting has been criticised for not providing a complete overview of material value-relevant information, mainly because of the increased economic importance of unreported intangible assets (Francis and Schipper 1999). In particular, the financial statements fail to reflect assets of the age of information, such as innovation capacity, knowledge and human resources (Elliott 1995), and negative externalities such as pollution and natural resource depletion from business operations. Societal awareness about these shortcomings was created by reports and studies by

NGOs, academics, accountants, and other stakeholders (van Tulder and van der Zwart 2003). As a response to these indications of corporate reporting drawbacks, an increasing number of companies have issued sustainability reports to demonstrate the appropriateness of their corporate behaviour regarding environmental, social and governance (ESG) aspects to society and stakeholders (Eccles, Ioannou, and Serafeim 2012; European Commission 2013). Another response to these shortcomings is developing an environmental Profit & Loss statement, like Puma and Kering did (Kering 2017; Puma 2017). In general, such analysis has no financial relevance in the past, present or future (Kering 2017, 5). This leads to practical problems. If companies and investors themselves are not able to link BNC issues to (financial) risks and opportunities, the practical usefulness for them is limited. Although such analysis is often seen as a leading BNC analysis, it seems not to be able to support the financial relevance of BNC issues.

Reporting on ESG, as part of 'non-financial' reporting, has developed strongly and is aided by a multitude of regulations, guidelines and initiatives that express the need for corporate transparency in these fields (García-Sánchez, Rodríguez-Ariza, and Frías-Aceituno 2013; Lambooy, Diepeveen, and van 't Foort 2015; Lambooy and Kamp-Roelands 2007; Lambooy and van Vliet 2008; Maas and Vermeulen 2015). Various stakeholders, including governments, have high expectations of the potential impact of reporting, leading to improved transparency and accountability (Hahn and Kühnen 2013) in addition to a change in behaviour and performance of companies (Adams and McNicholas 2007).

Since 1997, several EU directives on non-financial reporting have been adopted and subsequently implemented in domestic EU Member State legislation, among others, on corporate environmental performance (Lambooy 1997, 2010b; Lambooy and van Vliet 2008). These kind of developments, are part of a multitude of international regulations, guidelines and initiatives that promote transparency by companies on their environmental performance. Pursuant to the rapidly changing business environment and stakeholder consultation, the EU legislation on corporate environmental reporting has been substantially amended by the abovementioned EU Directive 2014/95 on non-financial reporting. This Directive had to be implemented in domestic legislation in all Member States by the end of 2016, becoming effective for companies as of 2017.

With the adoption of EU Directive 2014/95 on non-financial reporting, the topic of BNC has been explicated as part of the mandatory environmental and social reporting by large companies based in the EU. Natural capital is defined in this article as 'the stock of renewable and non-renewable natural resources (*e.g.* plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people' (NCC 2016, 12). Biodiversity is a component of natural capital and is defined as 'the variability among living organisms from all sources (terrestrial, marine)' (Vos, Grashof-Bokdam, and Opdam 2014, 18). Taken together, BNC forms the fundament of human wellbeing and a necessary precondition for a viable economy. BNC offers ecosystem goods, such as fish, timber and water, and services such as pollination by bees, air purification by trees, landslide and erosion protection by mountainous forests, and a safe environment for new fish stocks by coral reefs. These goods and services can be enjoyed freely, but there are limits. Land conversion, climate change, the introduction of exotic and invasive species, overexploitation and pollution all jeopardise the current state of BNC and, consequently, also of human existence (PBL Netherlands Environmental Assessment Agency 2014; Rockström et al. 2009; Running 2012). According to Rockström et al. (2009) and Running (2012), the planetary boundary of biodiversity has already been crossed and we have arrived in a dangerous dimension in which we cannot predict anymore how fast further deterioration of BNC will take place.

The second focal perspective of this article is the role of financial institutions as agents of change in preserving BNC. Change can be realised when they exert leverage over investee companies that impact BNC and/or are dependent on BNC (Lambooy 2010c; van Tilburg and Achterberg 2016). Investors, in particular asset managers and fund managers, must be aware of BNC issues when investing in companies. On the one hand, investors may run reputational risks, credit and investment risks, operational risks, legal liability risks, market and systemic risks and regulatory risks when investing in companies which are involved in activities that damage BNC. On the other hand, investors may reap the benefits of investments in companies that contribute to maintaining or restoring BNC. Preservation of BNC by an investee company will decrease such investee company's BNC operational risks where there is a dependency of that company on BNC. BNC preservation by an investee company may also reduce other risks, such as reputational risks and financial risks connected with damages caused to BNC and people living in those areas. This will ultimately positively affect the investments made into that company. Additionally, we point out that investments in BNC are leading to the creation of new markets, such as the voluntary carbon credit market (Lambooy 2010c; Livelihoods Fund 2017), the Payment for Ecosystem Services market, i.e. paying for ecosystem services such as a continuous water flow used to produce electricity (Lambooy 2010d), and the green bond market (NCD 2013; UNEP FI 2008; VBDO and CREM 2015).

The core aim of this article is to investigate the way in which asset managers and fund managers (hereafter also referred to as 'investors') attempt to influence the BNC performance of investee companies and the role of company reporting in decision-making processes of these asset managers and fund managers. We try to ascertain whether transparency on corporate BNC performance through reporting affects the interaction between investors and investee companies and how reporting may induce changes in company behaviour and performance related to BNC.

We also investigate how companies perceive the influence of asset managers and fund managers. We interviewed investors and companies, and we analyse how investors engage with companies to discuss and improve the latter's BNC performance, what the role of reporting is in this process and how reporting should ideally look like to optimally inform investors. The focus of our study is on the Dutch market. Typically, in the Netherlands, there is a high percentage of non-Dutch investors, who invest in Netherlands-based multinational companies listed at the Dutch stock exchange (EURONEXT). Hence, it would be interesting to check for possible differences between Dutch and non-Dutch investors.

Four drivers of a downward spiral towards BNC degradation form the main focus of this article. The four selected drivers are carbon emissions, land use, water use and chemicals. We did not use biodiversity as a separate indicator, because companies and investors often do not fully understand the concept as such. In our preliminary website research and in previous research in the Netherlands, we did not find any institutional investor who reported that it has selected biodiversity as a subject of engagement. In order to make the research on the topic meaningful, we decided to break the topic down into indicators that are more familiar to investors and companies. The four selected indicators are often applied by investors and companies in their reporting on issues related to biodiversity.

In section 2 of this article, we commence with a concise description of the theoretical background underlying this article, followed by the research objective, the central research questions, and the methodology in section 3. Section 4 contains the results and the analysis of our qualitative research into the influence of investors on their investee companies' BNC performance. This article ends with our conclusions, recommendations and offers avenues for future research (section 5).

2. Theoretical background

2.1. BNC as a material issue for investors

A clear relationship exists between companies and BNC (KPMG 2012; TEEB 2010). On the one hand, companies may affect BNC with their economic activities, for instance through land conversion or pollution of the environment. On the other hand, companies depend on BNC as production factors or inputs into production, such as wood, food, water, land or clean air. Due to companies' dependence on BNC, BNC degradation may pose significant business risks (Lambooy 2010c). Although an increasing number of companies select biodiversity as a material issue, widely accepted biodiversity metrics are not yet available. *The Economics of Ecosystems and Biodiversity* study (TEEB) has monetised the societal costs of BNC degradation at US$2–4.5 trillion per year (TEEB 2010). A study by TruCost found that economic activities are estimated to generate US $7.3 trillion in external environmental costs per year or 13% of global Gross Domestic Product (GDP) (TruCost 2013). Another estimate of the average annual economic cost of human-induced environmental depletion was US$6.6 trillion, equivalent to 11% of global GDP (UNEP FI 2011). If environmentally unsustainable activities continue at this scale, the annual costs for the global economy will reach nearly US$28.6 trillion by 2050, equivalent to 18% of global GDP. Of these costs, greenhouse gas emissions account for a large and growing share, rising from 69% to 73% between 2008 and 2050.

Surprisingly, land use receives little attention. Companies (and hence investors) steer clear of material questions pertaining to land use. On the one hand, it is difficult to establish the historical facts (e.g. whether an area was designated as a nature preservation area or an area where indigenous people lived). On the other hand, companies do not feel responsible for the conversion into the current land use situation, but consider it as a responsibility incumbent on (local) governments.

Only in a few situations companies pay attention to land use. For instance, after intense public discussion about companies destroying primary tropical forests in Borneo and the Amazon with the aim of commencing or expanding palm oil and soy beans plantations. This discussion resulted in the establishment of the Roundtable on Sustainable Palm Oil (RSPO). Some companies pay attention to the subject of land conversion in their reporting, like Unilever. However, investors do not really target this issue in their engagement.

BNC management by investee companies can be(come) a material issue for asset managers and fund managers in six main ways, i.e. through reputational risks, credit and investment risks, business opportunities, legal liability risks, market and systemic risks, and regulatory risks (NCD 2013; UNEP FI 2008). In order to mitigate these risks, asset managers and fund managers have basically six investment strategies to decide whether they should hold more or less of a specific asset as a result of taking BNC issues into account (UN PRI 2016): (i) ESG negative/exclusionary screening; (ii) norms-based screening; (iii) ESG positive screening and best-in-class; (iv) ESG themed investments; (v) integration of ESG issues; and (vi) engagement.

The first four strategies present a digital choice (yes/no), whether to include or exclude a certain asset. For instance, an investor can exclude stocks of a certain listed company from the investment universe. Another strategy is to integrate ESG in the regular investment process (listed under (v) above, using ESG data alongside traditional financial data in valuing a company's stock). The decision to (dis)invest in a company is then taken on the basis of this valuation in relation to the company's stock price and risk profile. Here, the result is not so much inclusion or exclusion, but a decision to (further) overweigh or underweigh the holdings of a certain asset, e.g. to hold more or less stocks than the market average (benchmark) in a certain sector or company, depending on that sector's or company's performance in regard of a certain predefined risk, such as the BNC aspects reduction of land conversion or reduction of GHG emissions. The last strategy is engagement (listed above under (vi)). Whereas all previous strategies can be defined as exit (and entrance) strategies, i.e. executed through buying or selling off the stock of a company, with engagement the investor interacts through its 'voice'.

The broadest definition available of shareholder engagement is 'the use of one's ownership position to influence company management decision making' (Clark and Hebb 2004, 144). These authors propose a more concise description of its goals and practices, and describe the goals as the aim to 'increase transparency and accountability and to raise social and environmental standards of corporate behaviour' (2004, 164). These goals can be sought simultaneously within engagement.

However, it is important to bear in mind that engagement is often connected to the other responsible investment strategies. First, engagement can be started because a company approaches or is suspected of breaking certain thresholds pre-defined by the investor, and thus risks being excluded from the latter's investment portfolio. Secondly, engagement can also be undertaken before a decision to include the company in a positive (thematic) fund is taken. Thirdly, engagement can be undertaken as a result of the analysis for ESG integration, when it is found that the company is an outlier on one or more ESG themes. The investor can discuss its concerns related to the company's underperformance on specific issues with the company and motivate it to improve its performance. If the company proves to be very unresponsive to the requests made by the investor, this may signal further ESG-problems, which may even lead to the exclusion of the company from the investment portfolio or the fund.

2.2. Shareholder engagement

Current literature mainly describes engagement approaches and activities, while information on the results of engagement is limited (Allen, Letourneau, and Hebb 2012; Goodman et al. 2014). Based on extant literature on shareholder engagement, expectations of academics and practitioners were collected and synthesised in a so-called Theory of Change (ToC). Figure 1 provides a simplified ToC on shareholder engagement and the expected effects of the engagement practices.

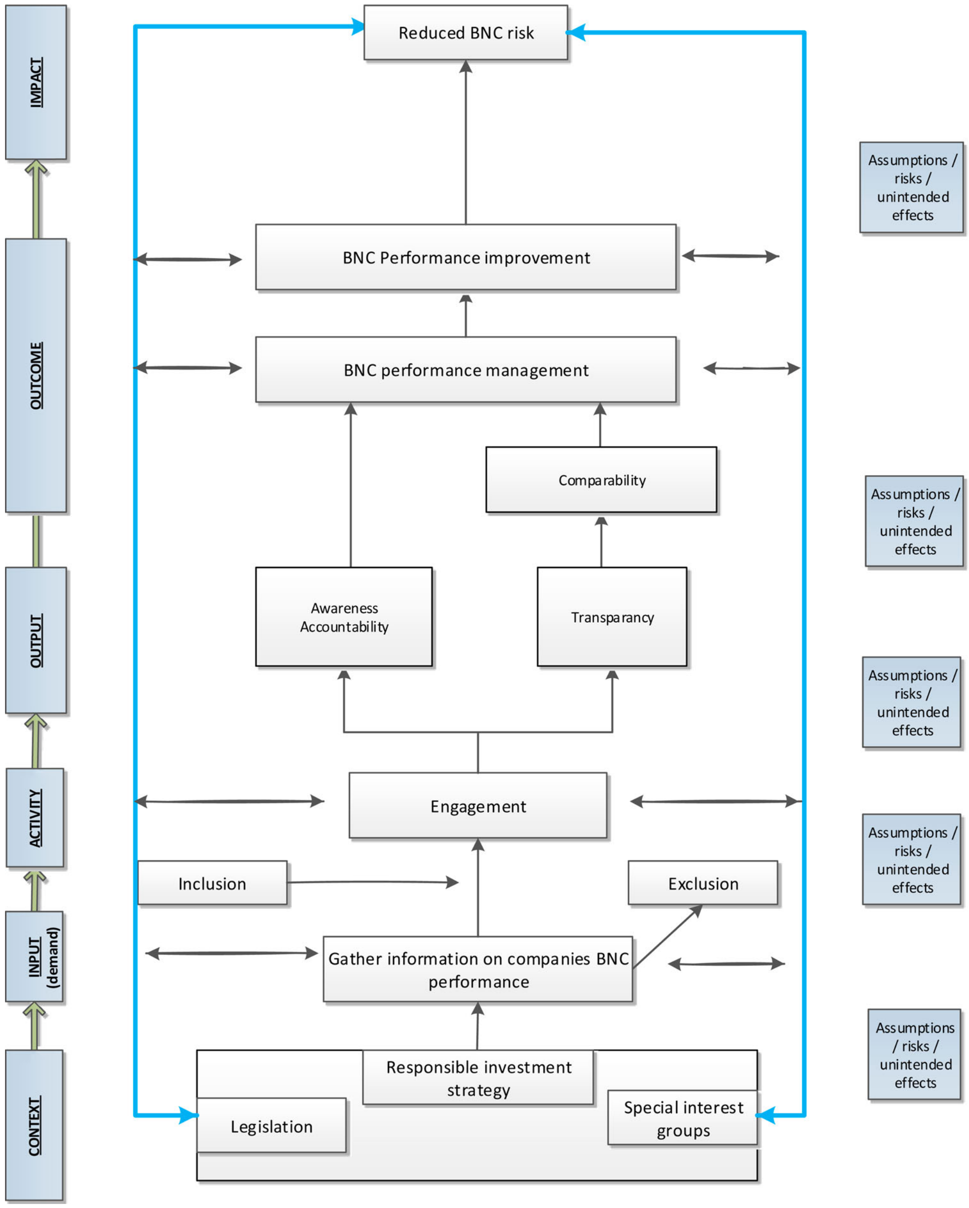

Figure 1. ToC shareholder engagement.

As illustrated in Figure 1, the ToC runs from input to impact. This causal chain, also referred to as the 'impact value chain', distinguishes between: the resources used for an action (input); the action itself (also referred to as project, activity, intervention or programme); the immediate quantitative synthesis of the action (output); the direct changes in people, organisations, natural and physical environments, and social systems and institutions (outcome); along with highest order effects of the action (impact) (Clark and Hebb 2004; Liket, Rey-Garcia, and Maas 2014). Systematically depicting the ToC concerning engagement requires information on the process of engagement. Being explicit about the ToC behind engagement helps to get better insights in the results and effectiveness and to identify opportunities for improvement and design accompanying policies. The ToC on engagement is used as a basis to analyse if the expected processes and results actually take place in practice.

Legislative developments, special interest groups, and the like, determine the context of an investor when gathering ESG information as input for investment decisions. Investment decisions may lead to inclusion or exclusion, i.e. including a company in the investment portfolio or excluding such a company. Action is warranted when engaging with an investee company. An investor may decide to formally and/or informally engage with an investee company (Ferraro and Beunza 2014; Logsdon and Van Buren 2009; O'Rourke 2003).

Through formal engagement, an investor may effectuate its legal rights as a shareholder, e.g. by proposing items for the agenda of the general meeting of shareholders, voting in the general meeting of shareholders for or against board proposals and shareholder resolutions, or by asking information from the company (see section 2.3 below on shareholders' legal rights).

Formal shareholder engagement topics are, among others, the company's board composition and strategy, take-over proposals, and the annual accounts. At any time, a shareholder can individually request information from the company. Shareholder rights include starting litigation before a court, requesting an evaluation of board performance, or a decision on a specific topic. In the Netherlands, Dutch company law provides for enquiry proceedings before the Enterprise Chamber of the Amsterdam Court of Appeal. Such proceedings can be instigated by shareholders who alone or collectively hold ten per cent of the outstanding shares. The proceedings can lead to court measures, such as the replacement of a director or the annulment of a board decision.

Informal engagement is executed through informal conversations, for instance with company boards, or by building coalitions with investee companies to tackle BNC issues. Eventually, engagement activities are intended to lead to certain outputs, such as increased transparency and accountability by the investee company, as well as certain outcomes, such as influence on a company's behaviour or policies. In the main, outputs refer to the immediate (quantitative) synthesis of actions; outcomes refer to direct changes in people, organisations, physical environments and social systems and institutions. Inputs may also reach the highest level of effects, namely impacts. Impacts may entail BNC performance improvements or increased financial value of the company.

Investor engagement strategies may be aimed at increasing transparency, accountability and social and environmental performance (Clark and Hebb 2004; Ivanova 2016). Quantitative research studies confirm that engagement may lead to increased transparency (Reid and Toffel 2009) as well as higher corporate environmental performance (Lee and Lounsbury 2011) and better performance on ESG issues (Vasi and King 2012). It has been claimed that the business case for ESG is 'on the rise' (Allen, Letourneau, and Hebb 2012; Ferraro and Beunza 2014; Gifford 2012; Gond and Piani 2013) and that shareholder engagement strategies may positively affect financial results of an investee company (Barber 2006; Becht et al. 2010).

Arguably, shareholder engagement seeks to bring about change. According to Goodman et al. (2014), engagement must promote sustainable behaviour and must follow a certain path in order to maximise positive results. Continually, shareholders must find novel issues to engage on, gather information on these issues, communicate with the investee company to propel change, evaluate the outcomes of its communication efforts and decide as to whether to continue engagement or not. In order to fully exploit engagement efforts, it is instrumental to follow this ongoing process.

Researchers examining the effects of shareholder engagement have to deal with many uncertainties. Allen, Letourneau, and Hebb (2012) for instance show that the nature and impact of engagement still is not fully understood. In a similar vein, we do not know yet whether social activism produces the intended outcomes (Lee and Lounsbury 2011), and research on the overall results of engagement is presently lacking (Logsdon and Van Buren 2009). Using the simplified ToC as a basis for our empirical research coupled with the results from our qualitative research (see section 3) will contribute to filling the gaps existing in literature.

2.3. EU Directive 2014/95

In October 2014, the Council of the EU and the European Parliament adopted Directive 2014/95/EU on non-financial reporting (EU 2014). Banks, insurance companies, and large public-interest entities, i.e. including listed companies, in excess of an average number of 500 employees, fall within the ambit of the Directive. In total, 18,000 companies in the EU are targeted by EU Directive 2014/95 (European Commission 2013). The EU Directive 2014/95 amends EU Directive 2013/34. Novelties of EU Directive 2014/95 when compared to EU Directive 2013/34 are, among others, the requirements to include a 'non-financial statement' in the management report (EU 2014). The non-financial statement must contain information to the extent necessary for an understanding of the company's development, performance, position and impact of its activity, relating to, as a minimum, environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters. The company must provide a description of the policies pursued in relation to those matters, including the due diligence processes implemented, and the outcome of those policies. Additionally, the company must report on the principal risks related to those matters linked to a company's operations including, where relevant and proportionate, its business relationships, products and services which are likely to cause adverse impacts in those areas, and how the company manages those risks. In other words, companies must now disclose information concerning supply chain risks in relation to environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters.

With the adoption of the new directive, the EU did not completely depart from the existing legislation, since the former provisions of EU Directive 2013/34 also stipulated that the management report had to contain an analysis of social and environmental aspects of the business and key non-financial indicators if relevant to the particular business. They were in place since their introduction in the 2003 EU Modernisation Directive, which became effective in the Member States in 2005 (EU 2003, 2013, 2014).

The EU Directive 2014/95 stipulates what type of information must be included in the non-financial statement. Although BNC is not explicitly mentioned in the main text of the Directive, companies are required to report about their business model and policies in relation to environmental matters as well as the outcome of applying environmental policies to cater for environmental risks in their supply chain. In absence of environmental policies, companies shall explain why no policy has been drafted (EU 2014). In the preamble of Directive 2014/95, under (7), it is explicitly stated that by 'environmental matters', reference is made to 'details of the current and foreseeable impacts of the undertaking's operations on the environment, and, as appropriate, on health and safety, the use of renewable and/or non-renewable energy, greenhouse gas emissions, water use and air pollution' (EU 2014, 2). This constitutes a clear reference to BNC. Furthermore, the Directive 2014/95 references to international reporting frameworks, along the lines of which companies can provide the non-financial information. In the Preamble, under (9), the Directive explicitly mentions:

> [European] Union-based frameworks such as the Eco-Management and Audit Scheme (EMAS), or international frameworks such as the United Nations (UN) Global Compact, the Guiding Principles on Business and Human Rights implementing the UN 'Protect, Respect and Remedy' Framework, the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises, the International Organisation for Standardisation's ISO 26000, the International Labour Organisation's Tripartite Declaration of principles concerning multinational enterprises and social policy, the Global Reporting Initiative, or other recognised international frameworks. (EU 2014, 2)

Most of these frameworks cover themes such as corporate water usage, carbon emissions and impact on biodiversity and ecosystems (CDP 2017; EU EMAS 2016; GRI 2016; ISO 26000 2014; NCC 2016; OECD Guidelines 2011). Other reporting frameworks that may be used are the Natural Capital Protocol (Dutch government 2017) and the Carbon Disclosure Project (European Commission 2013). Whilst selecting a reporting framework is optional, a large company is obliged to specify the framework it uses if it decides to apply a framework (EU 2014).

In December 2016, the EU Directive has been transposed into Dutch law, more specifically in article 2:391 of the Dutch Civil Code (DCC) and in an Order in Council (*Algemene Maatregel van Bestuur*), which was adopted in March 2017 (Dutch government 2016, 2017). The Order in Council ensures that the EU Directive is correctly transposed, as it contains provisions that are almost identical to the provisions of EU Directive 2014/95.[1] Article 2:391 DCC was not specifically created to implement the EU Directive, as this article was introduced long ago to outline the corporate duties concerning the annual management report (the directors' report; *bestuursverslag*). Among others, the management report has to provide 'a true and fair view' of the state of affairs of the company, of the developments that occurred during the financial year and of the results that the company achieved. Since 2005, pursuant to the 2003 EU Modernisation Directive, article 2:391 DCC required large companies to include non-financial performance indicators in their management report, including environmental and social matters. These indicators needed to be included whenever necessary for a proper understanding of the company's development, position and performance. With the implementation of the EU Directive 2014/95, and the introduction of the non-financial statement, the range of the non-financial information has been significantly expanded, including with regard to corporate BNC performance.

2.4. Powers of a shareholder and of the general meeting

An investor has legal rights as a shareholder. An individual shareholder has a multitude of powers at his disposal. Under Dutch Company law, a shareholder can for instance place an item on the agenda of the general meeting, request an investigation into the policy and affairs of a legal person, can convene a general meeting, and may attend the general meeting as well as vote during the general meeting (see Figure 2). For the exercise of these powers, thresholds are set in the DCC. Convening a general meeting for example is only possible when a shareholder represents at least one-tenth of the issued share capital, a shareholder that wants to place an item on the agenda may only do so if it represents at least three-hundredth part of the issued share capital. A request of an investigation into the policy and affairs of a legal person can only succeed if the shareholder (alone or together with others) represents one-tenth of the issued share capital (when the issued capital is less than €22,5 million), one-hundredth part of the issued share capital (when the issued capital is more than €22,5 million) or if a shareholder represents a worth of €20 million according to the closing rate of the exchange on the latest trading day. This investigation takes place in the form of enquiry proceedings before the Enterprise Chamber of the Amsterdam Court of Appeal. An overview of the powers of the general meeting of shareholders under Dutch Company law is presented in Figure 2.

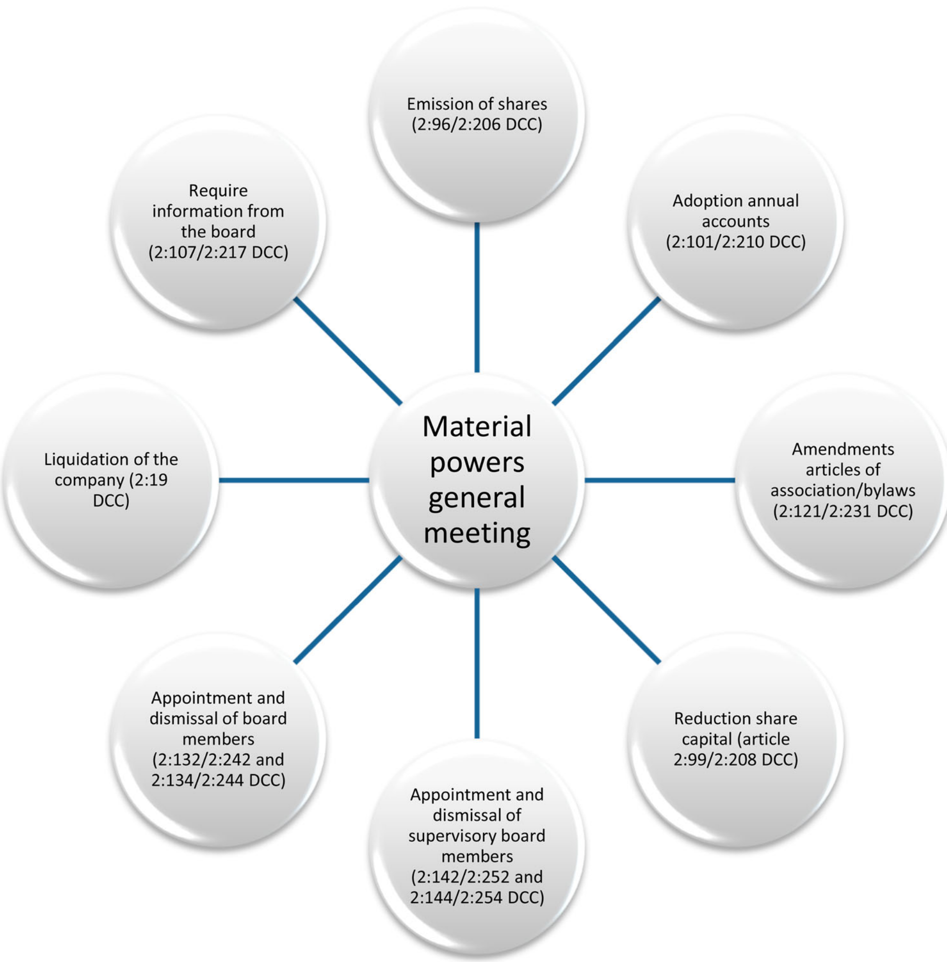

Figure 2. Powers of the general meeting.

As a shareholder, investors are part of the general meeting. Pursuant to Dutch Company law, most rights are granted to the general meeting and not to individual shareholders. The general meeting can for instance adopt a shareholder resolution, issue more shares, decide on a reduction of the issued share capital, liquidate the investee company, adopt the annual accounts, amend the articles of association, require information from the board, and appoint, suspend and dismiss (supervisory) board members. Some of these powers are granted to a simple majority of the general meeting (i.e. 50% of the votes plus one), others require a stronger majority, e.g. 66% of the votes, which is needed for a decision to liquidate the company whenever prescribed by a company's articles of association.[2] An overview of the rights granted by Dutch Company law to individual shareholders is provided in Figure 3.

As part of an engagement strategy, an investor can choose to for example propose a resolution to the general meeting of shareholders, to vote for or against a board proposal or a shareholder resolution, and to ask information from the company. By exercising its power, a shareholder, a group of shareholders, or the general meeting can encourage an investee company to improve its BNC performance. For example, the general meeting can propose that specific and detailed information is offered by the company to the general meeting about how the company depends on BNC, affects BNC by its operations,

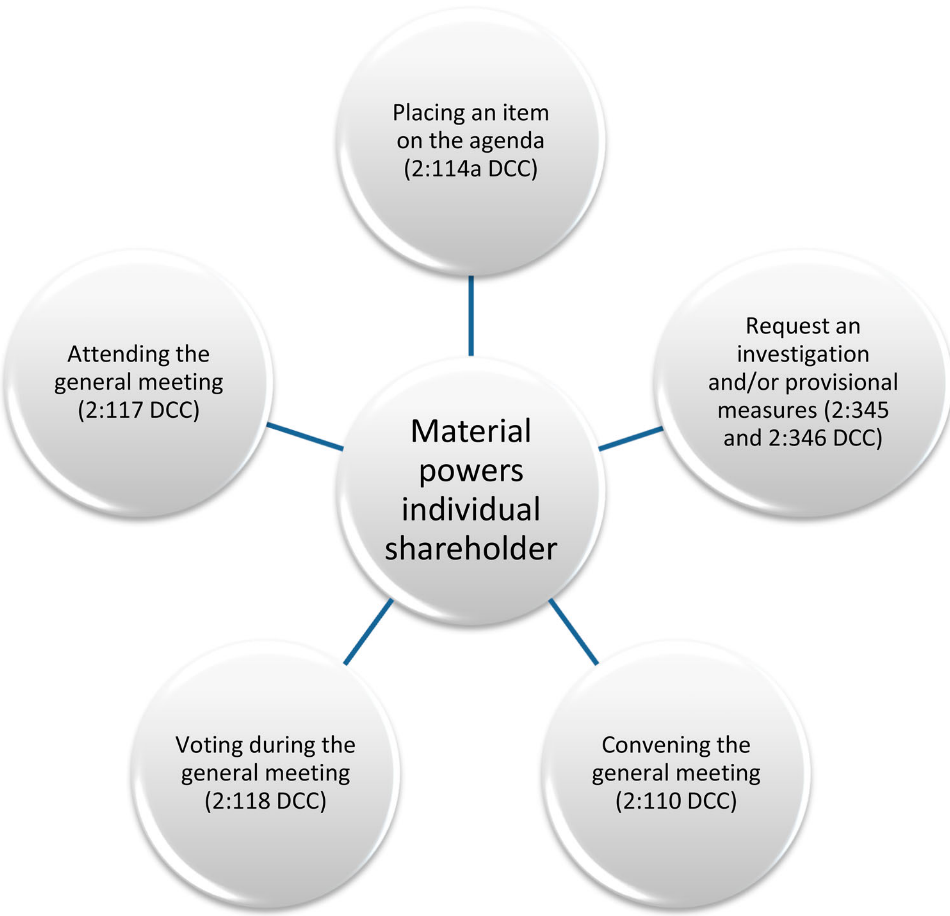

Figure 3. Powers of an individual shareholder.

and how it is improving its performance. If the required information is not furnished, a shareholder may suggest to the general meeting not to adopt the annual accounts.

If an investor is merely a minority shareholder, he will have to forge alliances with other shareholders in order to realise a majority vote supporting a certain proposal. An interesting example in the Netherlands showcasing the impact that minority shareholders may have comes from the organisation 'Follow This'. Follow This consists of a group of shareholders of Royal Dutch Shell Plc. (Shell) which aims to change Shell. In short, Follow This acquired 3% of Shell's shares and submitted a shareholder resolution in 2016. Shareholders urged Shell to 'become a renewable energy company by investing the profits from fossil fuels in renewable energy' and supported Shell 'to take the lead in creating a world without fossil fuels[,] expect[ing] a new strategy within one year' (Follow This 2016a). Not taking the abstentions into account, 2,78% of the shareholders voted in favour of the resolution and 97,22% voted against the resolution (Shell 2016). Despite this apparent lack of a majority support, the resolution was celebrated as a success, because it sent a clear signal to Shell to change its policies (Follow This 2016b). A shareholder resolution on the topic of climate change adopted by a large majority in the general meeting of Exxon (Exxon 2017) also demonstrates that this is considered a material issue by mainstream investors.

3. Research objective, research questions and methodology

3.1. Research objective

The main objective of this research is to assess how public policy makers can enable asset managers and fund managers to galvanise their investee companies into improving their BNC performance. Our research sets out to determine how mandatory and non-mandatory regulation on corporate environmental reporting can assist asset managers and fund managers in prompting their investee companies to improve their BNC performance.

3.2. Research questions

Multiple questions were devised to meet the main objective of this research. All questions are listed in Annex I. The questions were divided into questions for investors and questions for investee companies. Although EU Directive 2014/95 is not literally mentioned in the research questions, most research questions do shed more light on the possible workings of mandatory reporting on non-financial matters, including BNC performance of investee companies. Research questions 1–4 delve into the potential interventions of asset managers and fund managers. Research questions 5–7 concentrate on the effects and impact of aforementioned interventions on companies.

3.3. Methodology

Due to the paucity of empirical engagement studies, not a lot is known about how asset managers and fund managers can stimulate their investee companies into action. For this reason, we chose to conduct qualitative research of an explorative nature to obtain a first impression of the nuts and bolts of engagement and how legislation in the form of mandatory reporting may assist in the engagement process.

We used semi-structured interviews to collect empirical qualitative data. The sample of possible investee companies was drawn from a total population of investee companies that fall under the intended target group of EU Directive 2014/95, with a specific focus on Dutch stock exchange listed companies. A sample of four companies (DSM, AkzoNobel, Corbion and Heijmans) was selected on the basis of the sector in which they are active. Sectors more prone to have a substantial BNC impact were selected. From these sectors, we contacted those companies that are actively pushing the BNC envelope and communicate about their BNC performance. We expected a high probability that these companies would have to account for their BNC performance to investors, and would participate in engagement processes.

Instead of targeting asset owners (*e.g.* pension funds and insurance companies) that hold equity of their investee companies, we targeted asset managers and fund managers that are hired and commissioned by asset owners to manage the stocks of asset owners. Within the framework of agreements with asset owners, the asset managers and fund managers are the parties that engage with companies and decide whether or not to sell or buy an investee company's stock. Hence, we selected the asset managers and fund managers instead of asset owners due to their potential leverage over investee companies to improve BNC performance. Variation was achieved when selecting the sample of ten investors. Large and small, Dutch and foreign-owned, as well as investors with proprietary funds and funds of institutional investors were selected. Only those foreign-owned investors were selected that are active on the Dutch financial market. We interviewed ACTIAM, Aegon, BlackRock, BMO Global Asset Management (BMO), MN, NN Investment Partners (NNIP), PGGM, Robeco, SPF Beheer and Triodos Investment Management (Triodos IM). Interviews were held with finance professionals, mostly responsible for responsible investing or working for the engagement department. Some interviewees had a commercial background or previously operated as a financial analyst. Core characteristics of the companies and investors interviewed are presented in the Tables 1 and 2.

Bonds and other lending products are excluded from this research. Thus, certain actors in the financial sector, such as banks, fall outside the scope of this research. As opposed to banks, asset managers and fund managers have to rely more heavily on publicly available data. Legislation such as the EU Directive 2014/95 is therefore pertinent to asset managers and fund managers.

As alluded to earlier, another restriction of this research is the number of BNC aspects taken into account. Four material BNC aspects were selected, viz. land use, water use, chemical pollution and carbon emissions. These aspects are deemed material, because they encompass the most important BNC impacts and dependencies and are expected to be most frequently used by asset managers and fund managers.

Our research commenced with a desk study, whereby existing literature and websites related to the asset managers, companies and research questions were examined.

Table 1. Characteristics companies interviewed.

	Core business	Number of employees	Revenue	Operational focus
AkzoNobel	Chemicals	45,586	€14,86 billion	International
Corbion	Bioproducts	1,673	€0,918 billion	International
DSM	Chemicals	21,819	€8,9 billion	International
Heijmans	Construction	8,000	€1,98 billion	International

Table 2. Characteristics investors interviewed.

	Core business	Assets under management	Number of employees	Operational focus
ACTIAM[a]	Fund and asset manager	€55 billion	130	National
Aegon[b]	Financial services organisation (life insurances, pensions and asset management)	€707 billion	31,530	International
BlackRock[c]	Investment manager	US$5,100 billion	12,000	International
BMO[d]	Asset manager	US$238 billion	6,400[e]	International
MN[f]	Pension fund service provider	€114 billion	1,206	National
NNIP[g]	Asset manager	€199 billion	1,200	International
PGGM[h]	Pension fund service provider	€200 billion	1,363	National
Robeco[i]	Asset manager	€276 billion	1,218	International
SPF Beheer[j]	Pension fund service provider	€18 billion	195	National
Triodos IM[k]	Impact investor	€3 billion	137	International

[a]ACTIAM (n.d.).
[b]Aegon (2017b); Aegon (2017a).
[c]BlackRock (2016); BlackRock (2017).
[d]BMO Global Asset Management (2017).
[e]This also includes BMO Insurance, BMO Nesbitt Burns, BMO InvestorLine and BMO's Private Banking.
[f]MN (2017).
[g]NN Investment Partners (n.d.).
[h]PGGM (2016); PGGM (n.d.).
[i]Robeco (n.d.a); Robeco (n.d.b).
[j]SPF Beheer (n.d.).
[k]Triodos IM (2016); Triodos IM (n.d.).

One company and one investor declined to participate in our research and were not interviewed. In total, ten semi-structured interviews were conducted with investors as well as four semi-structured interviews with companies listed at Euronext. Each interview took approximately two hours. We prepared interview reports and submitted them to the interviewees for approval. As our sample was small, we did not use coding, but instead compared the answers of the investors and investee companies to our questions, and any additional comments collected from the interviewees.

After conducting the interviews, two validation workshops were organised to check whether our initial research results from the interviews would hold or needed adjustments. All interviewees were invited to the workshops, but only few could attend. Nonetheless, the participants to the workshops were either experts in this field of BNC, investors and bankers, regulators and academics. The first workshop was held with solely Dutch participants (approximately 15 participants), the second as part of an international conference on BNC (approximately 40 international participants). During the second workshop, the participants discussed the research findings in smaller sub-groups of approximately eight people each, followed by a plenary session in which the sub-groups insights were shared. In both workshops, most of the experts and stakeholders (including company and investor representatives) validated the findings of our study.

4. Results and analysis

4.1. Investors

4.1.1. Financial/ethical orientation, BNC performance assessment, and BNC themes

The findings of our study reveal, as shown in Figure 4, that financial returns are relevant to all respondents. All respondents are financially driven and almost one-third of them is primarily financially driven. None of the respondents is primarily ethically driven, but a majority is driven by ethical considerations next to financial considerations (60%). When it comes to assessing the financial performance of an investee company, half of all interviewed investors indicate that BNC is a material factor for the financial performance of investee companies. The other half indicated that BNC is material, but they emphasised that they primarily focus on the risks associated with BNC when assessing the financial performance of companies. None of the investors consider BNC as redundant or irrelevant for an investee company's financial performance (see Figure 5).

BNC as a theme has moved up on the investor's agenda during the past ten years. Starting from a reputational risk perspective, BNC is now increasingly perceived as a credit risk, liability risk or market risk driven by regulation. Besides associated risks, investors sometimes also recognise BNC-related opportunities.

BNC as referring to biodiversity and natural capital is not often taken into consideration, as the term is considered too fuzzy to operationalise by investors. To tackle this problem, respondents translate BNC into concrete components, such as carbon and water. All respondents indicated that carbon was the most material theme for them. Water stress and land conversion were considered far less important and only few respondents paid attention to those themes. Chemicals as a theme received the least attention by investors. In specific instances, such as the application of chemicals in agriculture or the chemical sector, some attention was paid to this theme by investors.

The recent development of the UN Sustainable Development Goals (SDGs) may drive change within the financial sector. Various themes, such as water, climate change and land use, are also covered by the SDGs and some investors are contemplating how to integrate the SDGs within their investment strategies. One of these investors is APG. Unfortunately, APG did not want to participate in this research. However, on their website they mention that they developed a methodology to identify investment opportunities related to 13 of the 17 SDGs (APG 2017).

4.1.2. Availability of standardised, trustworthy and complete BNC data

A major quandary confronting investors is related to the unavailability of standardised, trustworthy and complete data on corporate BNC performance due to the absence of common methodologies and standards. Problems are least prevalent with regard to information related to carbon. Since the establishment of the Greenhouse Gas Protocol as a

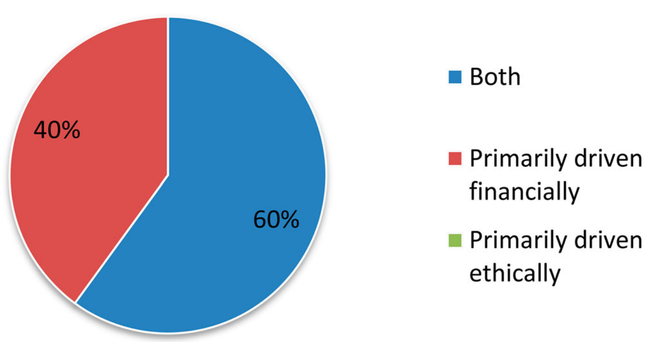

Figure 4. Finance first or ethics first investor.

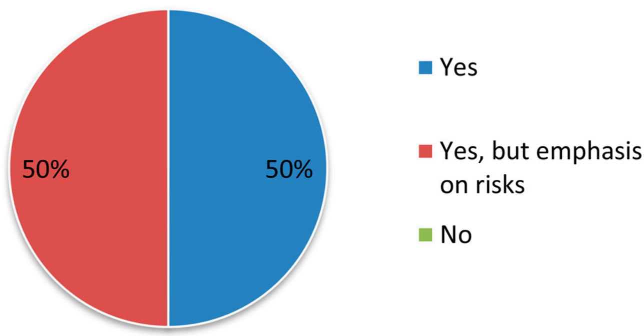

Figure 5. BNC as a material factor for the financial performance of investee companies.

shared methodology for carbon reporting and accounting, supplemented by the demand of the investor-supported initiative Carbon Disclosure Project (CDP) to report on carbon-related issues, reporting on carbon is the most advanced of all BNC themes. Determining the risk exposure of carbon is therefore fraught with less difficulties, although difficulties remain for scope 3 carbon emissions (i.e. elsewhere in the supply chain, with suppliers and customers).

Despite efforts of CDP Water, CDP Forest and GRI, the non-availability of data on corporate water performance forms a thorn in the side of investors. The problem of data availability is compounded by the locality of information, viz. information about water may be relevant for a specific region, but not for another. Water scarcity for instance, may be a useful parameter for possible water conflicts in a certain region, but may be less relevant in another region. Investors sometimes use satellite images to gather data. To connect gathered data to specific companies remains difficult, because information on the exact location of production facilities and ownership of land is missing.

Respondents surmount difficulties encountered due to incomplete data by using proxies. By using proxies, exposure for companies can still be estimated. Most respondents make use of data offered by several ESG data providers, such as MSCI and Sustainalytics. South Pole was mentioned as a specialised data provider, offering rich data on especially carbon, and also on water. ESG-scores computed by data providers are used by almost all respondents and are complemented by in-house analyses. Annual reports, financial analyst calls, information gathered during engagements and various public sources serve as input for these in-house analyses.

4.1.3. BNC mitigation strategies and engagement

A lack of comparable and independently verified data does not prevent investors from using the data to formulate mitigation strategies. Figure 6 shows that almost two-thirds of all respondents have defined quantified CO_2 reduction goals, most often related to their whole investment portfolio instead of for each individual investee company. Mitigation strategies differ however, which may be the result of a lack of data and common methodologies for risk assessments. Investors' strategies for instance vary in the time periods that are defined to achieve the carbon reduction of their investments. Some respondents execute their mitigation strategies through excluding the heaviest carbon emitters and by engaging with others.

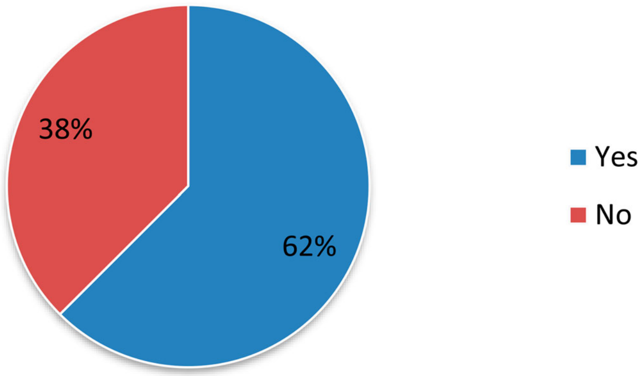

Figure 6. Established quantified CO_2 reduction goals.

Engagement on BNC themes sporadically forms the focus of investors (e.g. for ACTIAM). Only few investors indicated that they envisioned that through engagement, the BNC performance of investee companies may be improved. Other investors do not regard BNC as a central issue, but still include BNC in their engagement strategy. For example, BlackRock still engages on BNC themes in 6% of all engagement activities and BMO in 30% of all engagement activities. The total number of times that engagement is used as a strategy by the investors to interact with their investee companies ranges between 70 times (MN) to 768 times (BMO) per year. This can be explained as follows.

Engagement comes in different shapes and sizes. Sometimes engagement may target a specific sector and in other instances engagement may be geared towards a specific theme, such as CO_2 or water. Engagements may be executed by a single investor, but respondents have also been part of concerted engagement efforts through platforms such as UNPRI and Eumedion. The duration of engagement may also vary. Engagements range from several years to predefined periods of two to three years. If change of a company's behaviour is not evidenced during such (predefined) periods, an investor may decide to exclude the company. However, perseverance was pointed out as an essential element of successful engagement. Successful engagements were achieved by, among others, BMO with regard to sustainable palm oil, Robeco with regard to High Conservation Value Forests, and by Triodos IM with regard to fracking. Some investors are reluctant to claim successful engagements, because a causal relationship between engagement efforts and a successful result is not easy to establish.

For all investors, engagements seem to follow a general pattern, coined by one of the respondents as the escalation hierarchy (*escalatieladder*). At the lowest level of the hierarchy, an investor engages with an investee company by sending letters, possibly followed by (in)formal dialogues. At a higher level, investors may issue shareholder resolutions if less intrusive measures do not lead to the intended result. An 'ultimum remedium' is exclusion. Exclusion is positioned at the top of the hierarchy and is only applied when all other measures fail. Opting for exclusion may have far-reaching consequences as the investor will not be able to exert any influence anymore. Exclusion absolves the investor from any responsibilities towards the investee company and other stakeholders and prevents involvement in future controversies.

4.2. Companies

4.2.1. Financial/ethical orientation, BNC performance assessment, and BNC themes

Whilst 60% of the interviewed investors perceive themselves as financially and ethically driven (see section 4.1.1), companies paint a different picture of their investors' motives. According to the interviewed companies, it seems as if investors are only interested in BNC when it is clearly and directly linked to (reduced) financial risks. Companies stated that their BNC performance as well as transparency strategies do not have any material influence on investors. Be this as it may, sustainability performance might have an influence, because it helps companies to get included in sustainability funds.

Companies responded that BNC does not resonate well within their companies. Again, BNC as such is deemed too vague and hence is operationalised by companies. Water, land use, and climate are more concrete manifestations of BNC, and are themes which are taken into account by companies.

4.2.2. Availability of standardised, trustworthy and complete BNC data

In the main, investors are said to collect BNC data from third parties, sustainability reports, integrated reports and from websites. The investee company respondents opine that investors have a limited focus on BNC. Investors ought to ask for more BNC information from companies about processes, planning and quantitative targets or for sustainability performance instead of (financial) risks. In addition, in their opinion, investors could shift their focus from negative BNC impacts to positive contributions delivered by companies. By asking for more information and concentrating on positive impacts, an investor's BNC ambition may become clearer to companies and may assist companies in improving their BNC performance in time.

Two respondents also welcomed investors or spokesmen of investors, such as the Dutch Association of Investors for Sustainable Development (VBDO), who provide more information, and present and discuss trends, future expectations and international best practices on BNC.

4.2.3. BNC strategies and engagement

There seems to be a chasm between what some investors report and what companies report about BNC. Whereas investors claim to engage on BNC and sustainability issues, companies assert that specific engagement approaches aimed at BNC or sustainability seem to be non-existent. Engagement seems to centre on financial performance and if questioned about sustainability issues, it is always in relation to financial risks.

According to the investee companies' respondents, the investor's association VBDO does probe into sustainability issues during general meetings, whereas the aforementioned investors do not. Companies commend VBDO's presence during general meetings and their consistency. VBDO's questions concerning BNC and other sustainability performance issues make it easier for companies to internally gain more attention for sustainability topics. One respondent acknowledged that its company set more ambitious quantitative BNC targets after receiving questions from VBDO. Whilst companies appreciate VBDO's presence, companies also note that VBDO sometimes asks too general and easy to answer questions.

All companies confirm that investors actively engage with companies. Two companies propose to use other engagement strategies. Investors could for example arrange 'firelight sessions', *i.e.* strategic sessions with the management board or board of directors to discuss the company's strategy and important trends in a structured manner. If engagement would be aimed at adapting a company's BNC strategy, companies said that they would be willing to adapt their strategy. Companies are more reluctant to alter their measurement methods, valuation methods and reporting formats if requested by investors. When requested to report according to different measurement schemes, valuation methods or reporting formats, companies feel to be burdened with extra work. For this reason, companies advocate for standard measurement, valuation and reporting methods in such a way that all rating agencies, investors, governmental organisations and NGO's could make use of the same data.

Interactions between companies and investors do not seem to affect a company's reporting on BNC. Most likely, this is because most interviewed companies are already frontrunners with regard to BNC reporting. Interactions between companies and investors do have an impact on a company's strategy, ambitions and long-term performance, and may empower internal supporters of BNC to get BNC issues on the company's agenda.

The selected companies and investors do not cherish high expectations of the possible impact of EU Directive 2014/95. Many investors have heard of the Directive, but only had a passing acquaintance with its contents. Companies and investors alike, stressed that the EU Directive 2014/95 may help in levelling the playing field by improved mandatory reporting by laggards.

5. Conclusions, recommendations and future research

5.1. Conclusions

Based on our findings, it can be concluded that we currently lack tangible strategies for successfully tackling BNC issues. The approaches developed so far are not clearly enough linked to (financial) risks and opportunities in the past, present or future. As mentioned earlier, companies stated that BNC performance as well as transparency strategies do not have any material influence on investors. The perceived effect of EU Directive 2014/95 on tackling BNC issues is also low and environmental Profit & Loss accounts are unable to clarify the financial relevance of BNC. Establishment of a clear nexus between BNC and financial risks and opportunities is a necessary precondition to advance BNC in future.

When it comes to BNC integration, we can conclude that BNC as such does not resonate with investors and companies. Moreover, the four selected BNC themes are not yet strategically integrated in investment policies or company decisions. However, our research shows that some themes are – to a certain extent – taken into account. Carbon tops the list of material BNC themes, at distance followed by water and land use, and at the very bottom we find chemicals. Materiality of BNC is becoming acknowledged, but full BNC integration in financial analyses and risk assessments is not yet reached. Investors are still looking for appropriate ways of translating the effect of (potential) BNC impacts on financial results and risks. Quantified and complete BNC risk assessments are seldom made, but investors have set up mitigation strategies, especially towards reducing their exposure to carbon emissions.

ESG data providers offer data on companies' impact on carbon emissions, water availability, land use and chemical pollution. carbon, water, land use and chemicals. The interviewed investors supplement these data with their own research findings obtained from for instance public sources, engagements and in-house analyses. Investors indicated that complete, trustworthy and standardised BNC data is in short supply. Companies point out that investors have a limited focus on BNC and could ask for more BNC information. Asking for more information is just a piece of the puzzle – more is needed. Companies can adopt current reporting formats such as integrated reporting to increase reporting uniformity between companies, since the lack of alignment between companies in reporting makes it hard for investors to fully take BNC aspects into account. Uniformity in common methodologies is also needed, e.g. by sector and by theme. However, we also note that some investors indicated that they will not impose a certain reporting standard, e.g. concerning carbon emissions, on investee companies as the investors explained that this is not their task. According to these investors, the legislator should develop a reporting standard or the companies should agree on uniform standards among themselves.

Investors combine formal shareholder rights with more informal forms of engagement. Engagement forms a tier in the total ToC chain, which may lead to BNC enhancements. The upshot of engagement may be exclusion from the investment universe if a company denies to abide by the requirements of the investor. Good performers may be rewarded when they outperform competitors by including them in impact funds. Collaboration between investors may facilitate the engagement process and has yielded positive results. Investors added the caveat that successes reached may not always be attributable to one specific investor or one engagement effort, due to the multitude of actors and efforts involved in changing a company's BNC performance. Investors also stated that engagement mostly does not offer any quick fixes, but generally takes up to two or three years.

Companies are in general quite positive about engagement strategies. On the one hand, they emphasised that it helps if questions on ESG topics are asked during shareholder meetings. This shows that sustainability is a topic that should be on the CEO's and CFO's agenda. On the other hand, they also noted that the questions asked are often very general and do not always trigger performance improvements. The companies also expressed that BNC as such is almost never discussed. Individual BNC issues like carbon do get attention from investors. Nevertheless, It seems that investors mainly focus on financial impacts and are only interested in BNC issues if there are direct financial risks related to the issues. Because discussions mainly focus on financial results, companies assume that investors do not have an actual interest in the BNC performance of a company or ESG issues in general.

5.2. Recommendations

At the beginning of this article, we set out to develop policy recommendations to help investors to improve the BNC performance of investee companies. One way to help investors is to develop a common standard for reporting, meeting the needs of investors for complete and comparable data. Regulatory frameworks, such as the EU Directive 2014/95, can stimulate the use of a single reporting framework and encourage uniformity. Instead of overwhelming companies with multiple reporting frameworks, propagating a single framework may also increase reporting efficiency and create a level playing field amongst companies. To safeguard the veracity of information, third party verification of the information provided is necessary. Reporting frameworks must however leave sufficient leeway to benefit sector-specific and company-specific situations, and offer space for the creative development of reporting guidelines on specific matters.

Uniformity in the gathering process of data is also desired. Presently, questionnaires in different formats are sent to companies by various ESG data providers, prompting information about companies' ESG performance. Streamlining the data gathering process may relieve companies from too many questionnaires, making the gathering process more efficient, cost-effective and the data may become more comparable as a result.

Often, information on local production facilities of companies and land rights is missing. Companies must be obliged to divulge information about their production facilities and possible land rights, so that this information can be linked to potential investment and company risks related to BNC issues. By connecting the different strands of information, investors may learn whether certain companies have production locations in for example water scarce areas.

Investors themselves can augment engagement efforts on BNC reporting. By stimulating companies that are involved in an engagement effort, BNC reporting may increase. Investors can exhort companies to report according to generally accepted reporting frameworks, such as CDP and CDP Water, adding to the overall uniformity in reporting.

5.3. Future research

More research is needed to ascertain which reporting frameworks and methodologies are best equipped for corporate BNC reporting and computations. Research could also address how public regulators can act in order to assist companies in advancing their BNC performance and supply chain collaboration. Currently, there is no tangible strategy to tackle BNC issues and to link BNC to (financial) risks and opportunities in such a way that investors will take those risks and opportunities into account to improve their BNC performance. More research can aid in developing such strategies.

In practice, there are multiple reporting frameworks, which are developed in private regulatory systems but the use of which is promoted in legislation. Research could help to identify those BNC areas in which investors and companies reached consensus about a reliable reporting framework or methodology. Qualitative research and/or action research as a methodology could be suggested to attain such a goal.

As signalled earlier, the causality between changed company behaviour and engagement by an investor is not easy to establish. Nevertheless, data on the cause and effect of engagement strategies could help investors to choose effective engagement strategies. More empirical research is needed to gather such data.

Future research could address other groups not included in this research. For example, it could be investigated in which way development banks or regular banks collect BNC data, and how they use these data in their decision-making processes when offering loans to companies. In addition, future research could build on our explorative research and expand the sample set of investors and companies by setting up a larger-scale research, both in qualitative and quantitative research settings. Geographical expansion is also possible, by including companies and investors from other (European) countries.

Notes

1. According to the Order in Council, external verification is not limited to whether the non-financial statement is included in the management report, but also entails a check of whether the content of the statement is correct (EU 2014, L 330).
2. Articles of association may dictate otherwise.

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Annex I Research questions

With regard to the asset managers and fund managers:

(1) To what extent and how is information on land use, water use, chemical pollution and carbon emissions presently used in investment decisions and engagement with investee companies? Is BNC assessment already a special area of interest, related to risk assessments?
(2) What BNC aspects are regarded most essential for investment decisions? Or is BNC information used on aggregate levels only, based on general ESG-ratings and – benchmarks?
(3) How do asset managers and fund managers decide on applying a certain action in the event a company's activities negatively impact BNC (*e.g.* exclusion of worst offenders, inclusion of frontrunners, and/or engagement with companies and funds)?
(4) If BNC information is not used for investment decisions: why not, and what has to change so that this information will be taken into account?

With regard to the companies:

(5) Is interaction with asset managers and fund managers an important motivation for companies to change their reporting on BNC impacts and dependencies?
(6) Is interaction with asset managers and fund managers an important motivation for companies to change their performance of BNC impacts and dependencies?
(7) What are the expected effects on company reporting and performance of the different types of interventions by investors?