Master's Thesis

for the Attainment of the Degree

Master of Science

at the TUM School of Management

of the Technische Universität München

By Formalizing Their Capability Dedicated to Reducing Greenhouse Gas Emissions, Can Companies Stop Contributing to Climate Change While Sustaining Their Profitability?

How Relevant Is It, and How Should this Capability Be from Economic, Organizational, and Operational Views?

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Submitted on:	02.09.2024

Abstract

Tackling climate change implies reducing global greenhouse gas (GHG) emissions. However, most companies need to be profitable to continue to exist. Facing these two corporate survival rules from the present world, this thesis aims to provide guidance to companies for facing these imperatives, by exploring answers to the following question: By formalizing their capability dedicated to reducing GHG emissions, can companies stop contributing to climate change while sustaining their profitability? How relevant is it, and how should this capability be from economic, organizational, and operational views? Rooting my qualitative approach in the resource-based view (RBV) of the firm and several of its extensions (Natural RBV, Dynamic RBV, dynamic capabilities framework, and knowledge-based theory of organizational capability), I investigated through twelve individual semi-structured interviews of professionals (primarily active in Germany). Through the application of the Gioia Methodology, my empirical findings outlined three major interacting dimensions, i.e., a sustainable development strategy, processes and asset positions, as well as the capability lifecycle. A shared vision within the company appeared as a potential success factor for combining corporate GHG emissions reduction and profitability. Yet, outlining the importance of collaboration between companies and stakeholders, the exploitation of my findings pointed out a potential limit of the RBV.

Keywords: corporate greenhouse gas emissions reduction, companies' profitability, capability, resource-based view, sustainable strategic management

Zusammenfassung

Wegen des Klimawandels sollen Firmen ihre Treibhausgasemissionen reduzieren. Jedoch sollen letztere gleichzeitig profitabel bleiben. Deswegen fokussiert meiner Masterarbeit auf der Formalisierung ihrer ausschließlich zur Verminderung solchen Emissionen zugeordneten Fähigkeit, mit dem Ziel gleichzeitig die Profitabilität der Firma zu erhalten. Nach einer Verankerung in der Ressourcenorientierung (und entsprechende theoretische Erweiterungen), habe ich einen qualitativen Ansatz angewandt. Während der empirischen Phase fanden zwölf Interviews statt, hauptsächlich mit Deutschen Berufstätigen. Dank der Gioia Methodik habe ich drei Dimensionen beschrieben: die Nachhaltigkeitsstrategie, Prozesse und Assetspositionen, und Kernkompetenzlebenszyklus. Zudem erschien eine gemeinsame Sicht als potenziellen Erfolgsfaktor. Letztendlich wurde vielleicht eine Grenze der Ressourcenorientierung hingewiesen.

Stichwörter: corporate Treibhausgasemissionen Verminderung, Firmen Profitabilität, Fähigkeit, Ressourcenorientierung, nachhaltig strategisches Management

Preface

I thank all interviewees for having taken the time, even in the summer, to participate in my thesis, and I hope this work will now bring you nice insights!

I sincerely thank the TUM for offering this M. Sc. and for having accepted my application. I acknowledge the professors for their lectures and all the academic staff, who enable all students to study daily.

I thank the Chair of Corporate Management and all its members. I thank particularly Prof. Dr. Alwine Mohnen, for having accepted my thesis application as well as Konrad Kober, M.Sc., for having accepted to supervise me and for his guidance over the last six months, while I achieved this work.

I deeply thank my loved ones – especially my parents – who always helped and supported me when I needed it. I thank all previously visited education institutions, which enabled me to progressively acquire solid foundations, without which I would not have reached this thesis.

I thank all persons who contributed directly or indirectly to this thesis.

Lastly, this thesis was written with the hope of contributing to the reduction of global greenhouse gas emissions. Will it work? Who knows? At least, I really hope. Therefore, I thank you, who are now reading this thesis, and I hope this work will help you in this colossal mission!

Indeed, this thesis was not written to gather dust on a shelf, but to be used.

Use of artificial intelligence: I used Grammarly while writing and proofreading my thesis, i.e., I used it as a text corrector, not as a text generator.

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List of Abbreviations

CapEx: Capital Expenditure

CBAM: Carbon Border Adjustment Mechanism

CLC: capability lifecycle

CO_2: carbon dioxide

CSR: corporate social responsibility

CSRD: Corporate Sustainability Reporting Directive

DCF: dynamic capabilities framework

DCS: dynamic capability/ies for sustainability

EI: eco-innovation

ESG: Environmental, Social, and Governance

EU: European Union

GHG: greenhouse gas; GHGs: greenhouse gases

GM: Gioia Methodology

IPCC: Intergovernmental Panel on Climate Change

KPI: key performance indicator; KPIs: key performance indicators

M&A: Mergers & Acquisitions

R&D: research and development

RBV: resource-based view

SDG: Sustainable Development Goal

VRIN: valuable, rare, inimitable, non-substitutable

1 Introduction

Greenhouse gases (GHGs) are essential for two reasons. First, they warm the atmosphere via the greenhouse effect (Intergovernmental Panel on Climate Change, 2023a, p. 124). Second, human past and present actions increased dramatically GHGs quantity in the atmosphere, which led to the present climate change (Intergovernmental Panel on Climate Change, 2023b, p. 4). Thus, my theoretical journey started from A.D. Chandler's famous citation on enterprises, i.e., "*structure follows strategy*" (Chandler, 1962, p. 14). While I was considering climate change, this idea resonated unexpectedly. Indeed, since the dawn of time, all life forms' overarching strategy has been survival: *otherwise, you could not read this thesis, and I could not have written it*.

Furthermore, companies – as mere human creations – are less remote from the living world's hassle than one might grasp in the daily business-as-usual hustle. Indeed, climate change urgently threatens humanity and many other life forms (Intergovernmental Panel on Climate Change, 2023b, p. 24). Consequently, to tackle climate change, global strategies surfaced progressively (e.g., legally binding long-term goals set by The Paris Agreement (United Nations, n.d.-b)). Nevertheless, many companies struggle to align with these (e.g., from 2019 to 2023, Google's greenhouse gas (GHG) emissions grew by 48% (Google, 2024, p. 31)).

Therefore, I deemed it relevant to investigate this research topic. Indeed, this qualitative research work aims to provide companies with relevant insights for effective GHG emissions reduction while sustaining their profitability through the development of the corresponding capability. The research question framing my thesis is: **By formalizing their capability dedicated to reducing GHG emissions, can companies stop contributing to climate change while sustaining their profitability? How relevant is it, and how should this capability be from economic, organizational, and operational views?**

The following pages develop the theoretical foundations and a current literature review that led me to this research question. Then, I detail the methods I used for the empirical part of my work. Indeed, I conducted twelve semi-structured interviews and used the Gioia Methodology (GM) to analyze the gathered data. My findings are then presented through a transparent reporting of interviewees' statements, illustrated by the corresponding grounded model. Then, I discuss my methods and findings and point out potential limitations. Indeed, when interviews occurred, most participants were professionally active in Germany – and all in European countries –

which limits the generalization of the thesis insights to other geographical, corporate contexts. Last, a summary ends this thesis, outlining potential paths for further research.

2 Theoretical background

I used both the VHB-JOURQUAL 3 Rank[1] (I favored ranks A+, A, and B (majority) but also used the lower ranks B/C, C, and articles without any ranking when deemed necessary) from the German Academic Association for Business Research and the Scimago Journal Rank[1] (I favored ranks Q1 (majority), but also used the lower ranks Q2 and Q3 when deemed necessary) to assess the quality of journals that published articles cited in this part (but also in the rest of my thesis; an overview of the literature, the corresponding journals, and their ranks is available in Appendix table 1).

2.1 Theoretical foundations

In this part, I explore the implications of Chandler's insight in light of the present climatic challenge and associated need for GHG emissions reduction.

2.1.1 Definition of GHGs

In its sixth Assessment Report, the Intergovernmental Panel on Climate Change (IPCC) defined GHGs as "*gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of radiation emitted by the Earth's surface, by the atmosphere itself, and by clouds. This property causes the greenhouse effect*" (Intergovernmental Panel on Climate Change, 2023a, p. 124). Furthermore, the IPCC presented the main natural GHGs as being carbon dioxide (CO_2), methane, nitrous oxide, ozone, and water vapor, whereas anthropogenic ones as being chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Considering all main GHGs instead of sole carbon emissions avoids the risk of decreasing CO_2 emissions for instance, while potentially emitting more significant quantities of other GHGs. While *GHG emissions* describe

[1] Available under following links: https://vhbonline.org/en/vhb4you/vhb-jourqual/vhb-jourqual-3/complete-list and https://www.scimagojr.com/journalrank.php

absolute values, *GHG intensities* characterize relative ones (e.g., the ratio of emissions and overall sales (Nuber & Velte, 2021, p. 1960)). This nuance offers a wiser approach to the complexity of GHG emissions reduction. To exemplify, between 2000 and 2019, China's carbon intensity diminished at a 48.84% rate even if total emissions rose at a 226.12% rate (C. Huang et al., 2024, p. 1).

2.1.2 Resource-based view (RBV)

Past strategic management works, such as those of A.D. Chandler, set the scene for the RBV of the firm (Hart, 1995, p. 987). In the RBV, industry changes can transform firms' sources of *sustained competitive advantage*[2] (defined in Table 1) into worthless features (Barney, 1991, p. 103), e.g., networks for cheap access to fossil energy might progressively tend to enter this category, due to their high GHG emissions potential. Notably, a competitive advantage enables a firm to persist. In this regard, Barney (1991, pp. 105, 106) characterized a firm's *resources*[3] enabling its sustained competitive advantage as *valuable*, *rare*, *inimitable*, and *non-substitutable* (i.e., the VRIN model). In particular, he described resources canceling out threats from a company's environment as valuable. Regarding that, climate change is different from all previously faced industry changes. Indeed, it is an existential threat that no companies can escape as their environment implies the whole Earth in this context. This creates global interdependence among all companies, which renders adversarial to their interest that their GHG emissions reduction resources should stay rare, inimitable, and non-substitutable, particularly when considering the situation's urgency.

This specificity could point a limit of the RBV (and hence of the VRIN model, as well as the definition provided in Table 1) for understanding corporate GHG reduction resources. Indeed, GHGs diminution might call for a – not only sustained but also – (environmentally) sustainable competitive advantage of the firm, as well as a greater share of cooperation among companies (e.g., for infrastructures and sociotechnical systems redesign, including private and public stakeholders (Hart, 1995, pp. 1003, 1004)).

[2] Here, the term *sustained* does not refer to environmentally sustainable. Moreover, the *competitive advantage* approaches strategy at the business level rather than at the corporate level (Grant, 1991, pp. 114, 115).
[3] Italics are used the first time essential notions developed or underlined by authors I cite appear in my text.

Table 1[4]: Definition of sustained competitive advantage (Barney, 1991, p. 102)

Term	*Definition*
Sustained competitive advantage	"*A firm is said to have a sustained competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy*"

From a strategy formulation perspective, this interdependence in firms' common fate reverbs when coupling a firm's own strategy with global climate targets. To this end, a firm's resources (defined in Table 2) and *capabilities* (described in Table 3) are twofold pivotal in that they are the main sources for its strategy and profitability (Grant, 1991, p. 133). In the RBV, designing a company's strategy aims at "*maximizing rents over time*" (Grant, 1991, p. 119) and should maintain its competitive advantage via a profound awareness of how its resources enable its capabilities to emerge, how these capabilities mainly contribute to its competitive advantage, and how the latter then triggers company profitability; profitability being in parallel triggered by resources (directly), the sustainability[5] of its competitive advantage, the company's aptitude for capturing "*rents*" (Grant, 1991, p. 123) associated to its resources and capabilities, and the industry attractiveness (Grant, 1991, pp. 117, 119, 123, 133). On this matter, Figure 1 provides a visual summary of how resources, capabilities, competitive advantage, and profitability link together.

Lastly, as climate change tends to impact – at varying degrees – the appeal of all industries, a broader perspective on firms' profitability and environmental concerns should be adopted. Hence, two studies – not focused on GHGs, however rooted in the RBV – raised that companies' endeavors at avoiding emissions of polluting chemicals (from the United States Toxic Release Inventory) paid off after one or two years, particularly for heavy emitters (Hart & Ahuja, 1996, pp. 30, 32), and that better environmental performance seemed to indicate better financial profitability (relation strongly influenced by the industry circumstances, and increased when the industry grew) (Russo & Fouts, 1997, pp. 534, 549). Admittedly, many factors (different eras, regulations, chemical elements, etc.) can make the following comparison debatable, but these observations still provide empirical substance for advancing corporate GHG emissions reduction.

[4] Table 1, Table 2, and Table 3 offer an unaltered overview of how authors differently defined theoretical key notions.

[5] Sustainability of competitive advantage is here to understand as its longevity (Grant, 1991, p. 124), not as its environmental friendliness.

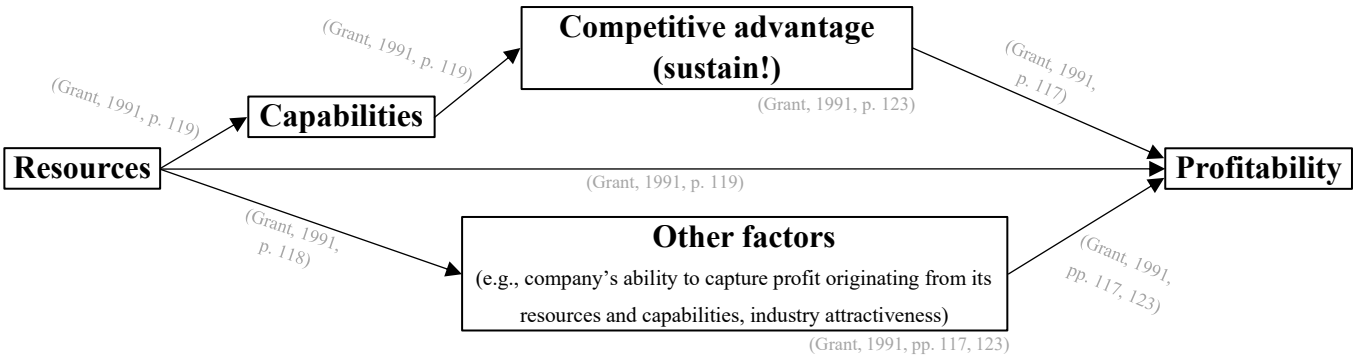


Figure 1: RBV overview, i.e., the overall linkage between a company's resources, capabilities, competitive advantage, and profitability (Grant, 1991, pp. 119, 133), adapted from (Grant, 1991, p. 118, Figure 2), and (Hart, 1995, p. 988, Figure 1)

2.1.3 Natural RBV

To enhance the basis offered by the RBV, Hart (1995) presented the Natural RBV. In the latter, Hart (1995, pp. 986, 1005) additionally considered companies within their natural environment, leading to three overlapping, path-dependent strategies, i.e., first, *pollution prevention*, second, *product stewardship*, and third, *sustainable development*. Moreover, he indicated capabilities enabling a "*shared vision*" (Hart, 1995, p. 1003) are vital for reaching this last step, a vision expanding on the three strategic steps (Hart, 1995, p. 1007). Furthermore, he argued this third step would spread outside the company, hence incorporating external stakeholders – both private and public ones – through cooperation (Hart, 1995, p. 1004). Indeed, implementing a product stewardship strategy should also lead to the involvement of such actors (e.g., legislators) – i.e., to stakeholder management – already when developing the products, thus outlining the importance of developing a "*capability in cross-functional management*" (Hart, 1995, pp. 1001, 1002). At that time already, he argued issues due to the "*natural (biophysical) environment*" (Hart, 1995, p. 989) would crucially require resources (described in Table 2) and capabilities (defined in Table 3) evolutions from companies; his work enabled an update of the competitive advantage understanding tailored to this revolution (Hart, 1995, p. 991). Indeed, from an empirical perspective, Sharma & Vredenburg (1998, pp. 729, 730) studied Canadian companies active in the oil and gas industry and found those with a proactive environmental strategy developed singular competitive organizational capabilities.

This theoretical anchoring complements the mere RBV, even if narrowing down to the level of GHG emissions is required. Indeed, the latter appear embedded in the broader pollution

prevention strategy (Hart, 1995, p. 999), and corresponding general principles could be adapted and applied in a fractal manner toward GHGs' distinctiveness. To exemplify, Hart (1995, p. 992) suggested a vital resource for emissions reduction should be permanent amelioration, which would lead to reduced costs advantage. Consequently, when considering carbon taxes (e.g., in 2026, the European Union's (EU) Carbon Border Adjustment Mechanism (CBAM) will charge carbon-intensive imports from outside the EU (European Union, n.d.)), companies should ensure to upgrade permanently their corresponding resources, what in turn should lead to smaller carbon intensities of their offering and inferior associated costs. Lastly, Hart described the capability for avoiding emissions as "*decentralized and tacit*" (1995, p. 999).

Table 2[4]: Definitions of resources

References	*Theories*	*Definitions*
(Grant, 1991, p. 118)	RBV	"*Resources are inputs into the production process – they are the basic units of analysis. The individual resources of the firm include items of capital equipment, skills of individual employees, patents, brand names, finance, and so on.*"
(Hart, 1995, p. 988)	Natural RBV	"*resources are the basic units of analysis and include physical and financial assets as well as employee's skills and organizational (social) processes*"
(Helfat & Peteraf, 2003, p. 999)	Dynamic RBV	"*we define* ***organizational*** *resources* (…) *as follows. A resource refers to an asset or input to production (tangible or intangible) that an organization owns, controls, or has access to on a semi-permanent basis.*"
(Teece et al., 1997, p. 516)	DCF	"*Resources are firm-specific assets that are difficult if not impossible to imitate. Trade secrets and certain specialized production facilities and engineering experience are examples.*"

2.1.4 Dynamic RBV

Now focusing on what resources and capabilities are at their core, Helfat & Peteraf (2003, pp. 997, 998, 999), by terminating the RBV assumption that corporate resources are immobile (Barney, 1991, p. 105), opened the doors for spatial and temporal considerations of organizational resources (defined in Table 2) and capabilities (described in Table 3), and developed the concept of capability lifecycle (CLC) as part of the Dynamic RBV. This more realistic approach for corporate GHG reduction resources and capabilities complements particularly well the partially relevant VRIN model (see part 2.1.2 Resource-based view (RBV)) by explaining capabilities can spread outside of their native company and even sector (Helfat & Peteraf, 2003, p. 998), what suggests firms could learn from other industries and domains to improve in this matter. Furthermore, a capability is described as a group of routines – either

mobilized for distinctive missions or their coordination – exercised at a minimum threshold and in which teams of people play a decisive role (Helfat & Peteraf, 2003, p. 999).

As such, the CLC itemizes the course of a capability over time into the *founding stage* (a team dedicated to an aim), the *development stage* (the structured team builds corresponding capability, implying path-dependency), and the *maturity stage* (the team sustains resulting capability, which might end as tacit) (Helfat & Peteraf, 2003, pp. 1000, 1001, 1003). Thus, the CLC could help a company structure its consciousness of where it currently stands toward an aim (e.g., the diminution of its GHGs) – i.e., 'Are we rather at the founding or maturity stage?' – and define which strategic objectives it should set for corresponding resources and capabilities.

Table 3[4]: Definitions of capabilities, dynamic capabilities, and organizational capabilities

References	***Theories***	***Definitions***
(Grant, 1991, p. 119)	RBV	"*capacity for a team of resources to perform some task or activity*"
(Grant, 1991, p. 120)		"*what it can do as a result of teams of resources working together*" ("*it*" refers to the firm)
(Grant, 1991, p. 122)		"*in essence, a routine, or a number of interacting routines*"
(Hart, 1995, pp. 988, 989)	Natural RBV	"*result from bundles of resources being brought to bear on particular value-added tasks (e.g., design for manufacturing, just-in-time production)*"
(Helfat & Peteraf, 2003, p. 999)	Dynamic RBV	"***organizational*** *capability* (…) *ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result*"
(Teece et al., 1997, pp. 515, 516)	DCF	"***dynamic*** *capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments*", "*this ability to achieve new forms of competitive advantage*"
(Winter, 2003, p. 991)		"***organizational*** *capability is a high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization's management a set of decision options for producing significant outputs of a particular type*" ("*'routine'—behavior that is learned, highly patterned, repetitious, or quasi-repetitious, founded in part in tacit knowledge*")
(Grant, 1996, pp. 377, 379)	Knowledge-based theory of organizational capability	"***organizational*** *capability, defined as a firm's ability to perform repeatedly a productive task which relates either directly or indirectly to a firm's capacity for creating value through effecting the transformation of inputs into outputs*" (to differentiate from "***organizational*** *routine provides a mechanism for coordination which is not dependent upon the need for communication of knowledge in explicit form*")

2.1.5 Dynamic capabilities framework (DCF) and knowledge-based theory of organizational capability

A key aspect of solving the present climatic challenge lies in path dependency and the importance of our short-term actions, otherwise climatic changes that are to happen will be irrevocable on "*centennial to millennial time scales*" (Intergovernmental Panel on Climate Change, 2023b, p. 24). This natural – but also increasingly regulatory and technological – imperative confronts firms to a rapidly changing environment, in the broadest sense, what exacerbates the difficulty of sustaining their competitive advantage. In such cases, attention should be pointed towards the DCF (Teece et al., 1997, pp. 509, 510, 515), which values *processes* (*organizational* as well as *managerial*, for *coordination*, *integration*, *learning*, and *reconfiguration* activities), *positions* (of *technological*, *financial*, *reputational*, *structural*, *institutional*, and *market assets*) and *paths* (*dependencies*, *opportunities*, and *evolution*) as critical underpinnings of competitive advantage (rather than only examining resources, what distinguishes it from the RBV) (Teece et al., 1997, pp. 518, 520, 521, 522, 523, 524, 527). Hence, the DCF complements significantly the theories detailed previously. Therefore, Teece et al.'s definitions of resources and dynamic capabilities are provided in Table 2 and Table 3, respectively.

Interestingly, supplementing the RBV with the DCF enables managers to strategize at the corporate level (instead of rather adopting a business-level[2] perspective), hence pointing out that headquarters are profitable to their business units when they generate resources in these units as well as when they – themselves – constitute a resource for their business units (Bowman & Ambrosini, 2003, p. 301).

A last stop should focus on knowledge. Indeed, in a rapidly changing environment, corporations' stakeholders (e.g., employees) tend to lack sufficient knowledge, what can lead them to increased improvisation. Nevertheless, improvisation cannot be considered as a routine (characterized in Table 3) (Winter, 2003, p. 991), and consequently, nor as an organizational capability (defined in Table 3). Therefore, the importance of learning and knowledge in general should not be overlooked. Indeed, almost thirty years ago, Grant (1996, pp. 384, 385) argued knowledge (particularly the dedicated and tacit one) is the foremost resource in a company, and organizational capabilities (reported in Table 3) are the expression of its integration (via *new knowledge* procurement and reconfiguration of *existing knowledge*). Furthermore, Grant (1996, p. 379) emphasized that the ability of organizational capabilities to generate and maintain a company's competitive advantage is pivotal for gaining returns, particularly in intensely competitive settings. Indeed, already in 1991, he underlined tacit knowledge's capital role in

organizational routines and capabilities, describing the analogy that "*Routines are to the organization what skills are to the individual.*" (Grant, 1991, p. 122). This last insight rounds off my above-developed theoretical knowledge quest.

The five theoretical anchorages provide relevant insights and present respective limitations; however, they complement each other for a broader understanding. The following chapters will build on the latter.

2.1.6 Synthesis: definitions of resources, capabilities, and hindsight on companies' profitability

In the first place, synthesizing all described theoretical streams led me to the following definitions of:

- Resources (summarized from Table 2 and Table 3): firm-specific inputs for production (e.g., physical and intangible assets, skills of employees, knowledge (Grant, 1996, p. 384), finance, organizational processes, patents, etc.); they are difficult to copy, companies only have temporary access to these, and they are the elementary units from which capabilities can emerge (Grant, 1991, pp. 118, 119, 120) (Grant, 1996, p. 377) (Hart, 1995, pp. 988, 989) (Helfat & Peteraf, 2003, p. 999) (Teece et al., 1997, p. 516), and

- Capabilities (summarized from Table 3): what emerges from clusters of interplaying resources and routines (the latter insisting stronger on experienced demeanors (Winter, 2003, p. 991) (Grant, 1996, p. 379)) dedicated to achieving distinctive valuable activities (Grant, 1991, pp. 119, 120, 122) (Grant, 1996, p. 377) (Hart, 1995, pp. 988, 989) (Helfat & Peteraf, 2003, p. 999) (Winter, 2003, p. 991); while dynamic capabilities rather focus on answering fast-mutating surroundings and adapting a company's competitive advantage (Teece et al., 1997, pp. 515, 516), organizational capabilities rather channel towards the process and final outcome obtained from resources and routines (Grant, 1996, p. 377) (Helfat & Peteraf, 2003, p. 999) (Winter, 2003, p. 991).

Secondly, two crucial aspects of the present world economy – mainly capitalistic and where markets play an utterly important role – should be underlined. First, companies aim to maximize

their profit in a market economy, namely, the gap between their revenues and associated costs (Pollert et al., 2016). Indeed, focusing on the RBV, profitability can be defined as the "*firm's ability to earn a rate of profit in excess of its cost of capital*" (Grant, 1991, p. 117). Second, capital providers (e.g., banks, investors, etc.) desire to harvest financial returns on their invested capital, leading to these capital costs. Indeed, in markets where free capital movements can occur, these tend toward the most profitable investments, i.e., investors pressure firms (Andrews et al., 2001, p. 38). However, companies require capital to acquire resources and develop capabilities. Consequently, sustaining profitability is a survival condition. Therefore, reducing corporate GHG emissions globally and promptly implies seriously considering these realities. From an empirical standpoint, Kouloukoui et al. (2019, pp. 1, 10) found that the company's profitability mainly drove the number of climate mitigation projects in companies emitting the largest amounts of GHGs worldwide, i.e., the projects number decreased in companies with weaker profitability than the reference mean.

2.2 Current literature status

As indicated in the GM, the following literature review does not try to be comprehensive (Gioia et al., 2013, p. 23), but will offer an overview of recent and current research topics linking the reduction of GHG emissions in companies, their corresponding resources and capabilities, as well as their profitability.

2.2.1 Dynamic capabilities for sustainability (DCS) and profitability

In their recent systematic literature review, Ortiz-Avram et al. (2024, p. 2976) categorized DCS into four categories, i.e., *firm-level eco-efficiency* (permanent integration of stakeholders' sustainability preoccupations in a company's operations), *firm-level transformation* (permanent integration of stakeholders' sustainability preoccupations in its value-chain), *network-level eco-efficiency* (permanent integration of the latter in its supply chain), and *systemic transformation* (permanent integration of the latter in its overall strategy and actions, enabling sustainability-related cooperations). From a profitability perspective, the firm-level transformation DCS enable new commercial positioning through novel sustainability-related offerings (Ortiz-Avram et al., 2024, p. 2976), DCS that – if successful – should generate new revenues. Besides, such DCS allowing firms to notice commercial occasions are also named *seizing* capabilities

(Shang et al., 2020, p. 597). Going one step further, i.e., from the macro to the micro level, Chevrollier et al. (2024, pp. 968, 974) characterized the *seizing micro-foundation* of DCS as the one enabling firms to appropriate value while reducing their carbon footprint, being facilitated by cooperation as well as precise monetary nudges coupled with emissions reduction.

Hence, such DCS may sustain a company's economic viability while decreasing its emissions. However, in addition to income and value creation, further levers might be activated by DCS toward this aim, e.g., capital costs reduction, to name but one. Nevertheless, they were not addressed in these articles. Further, GHG emissions are a peculiar aspect of sustainability but broader than sole carbon emissions. However, these articles did not approach them specifically, a limitation that should be ceased through my research work.

2.2.2 Organizational overview: the importance of research and development (R&D) capabilities and women in boards for lower corporate GHG emissions

In parallel, a company developing its capabilities to match sustainability-related demand may foster its *eco-innovation* (EI) – the innovation simultaneously addressing its environmental and competitive advantage concerns (Demirel & Kesidou, 2019, pp. 847, 848). In this same study – grounded in Natural RBV – the authors highlighted a company would achieve EI more easily if it invested in environmentally friendly R&D and set up its environmental capabilities based on its *environmental management system* and *corporate social responsibility* (CSR). Yet, the reduction of GHG emissions was not directly addressed, even if these organizational insights might also be relevant for handling GHGs.

Indeed, successful R&D capabilities leading to hit innovation are pivotal for decreasing corporate GHG emissions. To illustrate, bound to deal simultaneously with expenses permitting to emit and R&D costs, some heavily emitting Chinese firms lacking R&D capabilities and having failed to reduce via innovation decided to relocate their carbon emissions toward affiliated companies (Li et al., 2023, p. 1). Hence, emissions were not shrunk intrinsically. Even if this article focused on China only – a potential limitation for the following – under globally growing GHGs regulatory pressure, this transfer phenomenon could also increasingly happen across other companies and countries. Moreover, it empirically exemplified what companies' incapability to reduce GHGs and cover related costs could lead to, at the inescapable moment of facing regulation obligations. When mobilizing the Natural RBV, it also emphasizes that counting on confronting climate change by solely covering corporate costs for being authorized

to emit GHGs – e.g., via sustained corporate profitability – might be insufficient due to the climate's biophysical constraints on companies' worldwide environment. This underlines the importance of maintaining profitable corporate operations if decreased GHG emissions are associated with it.

Furthermore, environmental innovation (including both products and processes) is fostered by *dynamic* and *coordination capabilities* – among others – as well as CSR and favorably impacts companies' environmental and organizational performances (J.-W. Huang & Li, 2017, p. 309) (Yuan & Cao, 2022, p. 1). Furthermore, relying on RBV and Natural RBV, Lee & Min (2015, pp. 534, 536) showed from empirical observations of Japanese companies that more significant investments in environmental R&D (enabling EI) resulted in less carbon emitted and that financial performance was influenced favorably by environmental R&D. These findings foreshadow the potential of such resources and capabilities to diminish companies' impact on climate change (e.g., by leveraging green innovation) while sustaining profitability.

As the DCF suggested, organizational and managerial processes are pivotal for sustaining companies' competitive advantage. With regard to companies' strategies and structures, attention should indeed target (top) management (e.g., the CEO (Chevrollier et al., 2024, pp. 968, 976)), who plays a key role in achieving corporate GHGs abatements (e.g., for emissions from Scope 1 and 2 (Gaganis et al., 2023, p. 438)). Moreover, Pinkse et al. (2024, p. 18) proposed *input*-, *process*-, and *output*-related obstacles to decarbonization could be countered by four organization-wise innovation capabilities: *collaborative*, *integrative*, *recombinative*, and *socio-cognitive* capabilities. Furthermore, empirical observations of 3,928 firms between 2010 and 2020 pointed out those with a board characterized by a larger share of women (i.e., rather at executive director positions) invested more in innovation for lower GHG emissions (García-Sánchez et al., 2023, pp. 1, 2). Indeed, female directors on a company's board can act as an impactful organizational lever for achieving corporate GHG emissions reduction (e.g., observed for "*disclosure and management of GHG information*" in FTSE 350 companies (Al-Qahtani & Elgharbawy, 2020, p. 1557), but also for "*climate change disclosure*" in Canadian companies (Ben-Amar et al., 2017, p. 369)). Focusing on listed companies, Nuber & Velte (2021, pp. 1958, 1959, 1960) analyzed STOXX Europe 600 companies (data from 2009 to 2018, financial sector excluded) and brought to light that a balanced repartition of female and male board members was aligned with lower corporate carbon intensity and that at least two women should occupy board director positions. Zooming in on Germany, Yadav et al. (2024, pp. 158, 162) studied forty-four German corporations listed in the S&P Global 1200 Index,

where they observed a minimum percentage of 25% female board members seemed to influence positively the lowering of GHG emissions. These converging empirical insights provide useful initial indications from an organizational point of view.

2.2.3 Operational measures for corporate GHG emissions reduction

First, reducing the GHG emissions of a company implies measuring the latter and making the company's stakeholders aware of them (Chevrollier et al., 2024, pp. 968, 975). Indeed, Chevrollier et al. (2024) call this DCS micro-foundation *sensing*. At this point, an overview of concrete GHGs reduction measures should enable a better understanding of which operations these DCS should lead to.

In their thorough literature review on measures for decreasing GHG emissions in companies, Lewandowski & Ullrich (2023, p. 4) highlighted nine pillars encompassing twenty-seven measures (illustrated by sixty-five application cases), i.e., *Energy*, *Product*, *Process*, *Carbon capture*, *Office & mobility*, *Management*, *Reporting & disclosure*, *Compensation, and 6R & waste* (6R standing for: "*Reuse, recycle, reduce, recover, redesign, and remanufacture*" (Lewandowski & Ullrich, 2023, p. 7)). Furthermore, their survey ranked the five most applied measures as, respectively, *Process efficiency*, *Energy efficiency*, *Communication* (as part of the pillar Office & mobility), *HR sustainability measures* (as part of Management), and *Self-regulation* (as part of Reporting & disclosure) (Lewandowski & Ullrich, 2023, p. 10). Moreover, the five measures perceived as the most effective were *Energy acquisition*, *Carbon capture*, *Self-regulation*, *Clean fuel* (as part of Process), and *Energy recovery* (Lewandowski & Ullrich, 2023, p. 10).

Regarding global strategies aimed at tackling climate change, Cenci et al. (2023, pp. 2, 9, 11) analyzed data from 1,951 publicly listed corporations (from the Energy, Industrial, Material, and Utilities branches, according to the Global Industry Classification Standard) and found those matching Paris Agreement objectives engaged in "*growth opportunities, innovation (e.g., R&D investments, incentives, new products) and cooperation (association, communication)*" (Cenci et al., 2023, p. 9), what generally reflected behaviors more committed toward the Sustainable Development Goal (SDG) 7 (i.e., affordable and clean energy (United Nations, n.d.-a)). In contrast, the unmatching ones behaved in favor of risk limitation (to illustrate, actions such as "*asset modification, modification of procedures, assessment and measurements*" (Cenci et al., 2023, p. 9)). The above-gathered information indicates which

actions companies should achieve or avoid to efficiently decrease their GHG emissions from an operational standpoint. This constitutes precious strategic input for applying any previously described theoretical anchorage to corporate GHG emissions reduction. Nevertheless, whether such operational measures could be simultaneously profitable was not a core focus in this literature, and hence remains an outstanding question.

2.3 Research gaps and research question

The reviewed current literature was partly grounded in RBV and Natural RBV. Moreover, the authors addressed dynamic capabilities in some articles. However, the articles provided limited information on organizational capabilities. Furthermore, despite its relevance, the authors did not mobilize the CLC approach (Dynamic RBV). Although the review underlined the importance of reducing corporate GHG emissions while maintaining profitability and highlighted the potential of several capabilities in lowering emissions, how capabilities would secure companies' economic viability while achieving this was incompletely addressed. Empirical insights also provided organizational and operational starting points for such capabilities. Yet, when coupled with the gaps just cited, this only called for a stronger research focus on both aspects. In particular, the related profitability concern remained unanswered. Eventually, sustainability and carbon emissions were addressed, but when wrapping up the overall picture, insights oriented toward the broader GHGs were sporadic.

2.3.1 Formalization of a capability

Closing a major research gap implied leveraging the CLC. Furthermore, the latter covers "*all organizational capabilities, 'dynamic' or otherwise*" (Helfat & Peteraf, 2003, p. 997) and applies to a large array of companies (Helfat & Peteraf, 2003, p. 1000), two valuable features when considering above-presented research gaps and the global scope of climate change.

While the CLC is a forerunner theoretical tool that enables to consider capabilities have a lifecycle, i.e., it describes the development of a capability over time, I had to define the active corporate demeanor of leveraging such a tool, i.e., the formalization of a capability. Thus, for any organization, a capability's formalization is the process of evaluating a capability's position within its lifecycle and of further developing this capability to reach strategic objectives (e.g., sustaining competitive advantage to sustain profitability). Thus, my research work aims at being

valuable for any company, whatever the current state of its capability dedicated to reducing GHG emissions.

2.3.2 Research question and limitations of thesis' scope

Due to the global reach of climate change, my research question needed a formulation that was as open as possible to find relevant insights for the broadest corporations' array. If the gathered theoretical background seemed to suggest the relevance of formalizing a capability to reduce corporate GHG emissions while maintaining profitability, I had to characterize the relevance of this proposition and how this capability should – or should not – be. This led me to the following research question: **By formalizing their capability dedicated to reducing GHG emissions, can companies stop contributing to climate change while sustaining their profitability? How relevant is it, and how should this capability be from economic, organizational, and operational views?**

This thesis targets how to intrinsically reduce corporate GHG emissions (e.g., via changes in core operations, business models, etc.). Consequently, it does not focus on corporate GHGs reporting, externalizing, compensation, and capture capabilities. Admittedly, reporting is an important part and catalyst of a corporation's GHGs reduction capability (e.g., by providing reliable emissions data to all stakeholders). However, it only delivers a picture of a corporation's GHG emissions situation; no reduction happens if no further action is achieved. Moreover, emissions externalization and compensation measures are questionable in tackling climate change and can harm the environment in numerous ways (Lewandowski & Ullrich, 2023, p. 12).

3 Methods

The thesis period spread over six months (from March to September 2024). My study design unfolded this way: I contacted interviewees from the end of June and extended this phase over July; the twelve interviews occurred between mid-July and the beginning of August, over three weeks; finally, data preparation and analysis followed in August, over three weeks.

3.1 Data collection (interviews)

Because of my research question, I deemed one-on-one semi-structured interviews the most relevant way for data collection (enabling flexibility and deep, tailored (Knott et al., 2022, pp. 1, 2), real-time answers compared to structured interviews or case studies analysis, for instance). They all occurred online to offer flexible scheduling and to reach the broadest range of participants. Besides, they all took place in English to avoid meaning problems due to translation (I used German once to further explain a question). Last, to achieve this part of the study, I stuck as much as possible to recommendations from Knott et al. (2022).

3.1.1 Contact procedure

Overall, I achieved around 250 to 300 contact attempts toward potential interviewees. I searched contact data on the internet while focusing on professionals and experts linked to reducing GHG emissions and sustaining profitability in companies. I targeted several organization types, principally companies, NGOs, and universities across the world. However, I emphasized my search in the EU and Germany due to a better knowledge of the corporate context in this region. Fourteen persons answered positively. Therefore, my main selection criterion was the time constraint, i.e., I rejected two offers in August. The contact pattern began with a first contact (phone calls, emails), describing the interview topic, and asking for interest in participation. Second, I sent interested persons a consent form via email, with further explanations on the interview subject (i.e., “a potential solution for companies for reducing their greenhouse gas emissions while sustaining profitability”), structure, recording conditions, and processing of the collected data. I tried to foster informed consent by providing adequate resources on data recording in this document (e.g., the nature of data I would record, links to relevant law texts and definitions) and required interviewees to sign it before accessing the next step. Third, I shared the video call invitation with participants and asked them to choose an undisturbed place where they could feel unstressed for the interview (Knott et al., 2022, pp. 3, 4). Further, the exact research question and interview questions were only disclosed to interviewees during the interviews. This design sought to provide the most spontaneous answers for data collection while reducing informants' preparatory work (to maximize the acceptation rate).

3.1.2 Interviewees sample

Due to anonymization reasons, only limited and sparse information can be given on the interviewee sample (e.g., company names or business sectors cannot be disclosed). Twelve adults were interviewed, with a minority of women. Most interviewees were professionally active when interviews happened. Participants worked in organizations ranging from small companies to national and international NGOs to larger firms and worldwide operating groups. Most participants had management positions, with a minority of founders and directors. Eleven participants occupied positions linked to sustainability, of which ten focused on sustainability in companies. Only one person had no connection with sustainability; however, the latter presented a strong link to sustaining corporate profitability. Moreover, one interviewee was directly tied to profitability and climate neutrality in corporations. Six participants had direct ties to corporate GHG emissions reduction. In addition, the interviewed persons were all active in EU countries, with more than three-quarters of the sample in Germany. Besides, most interviewees were not native English speakers. Lastly, twelve informants were deemed sufficient for data saturation (Knott et al., 2022, p. 2).

3.1.3 Topic guide

The topic guide was a slide presentation displayed on a shared screen during the video call. Semi-structured interviews aimed at answering my research question. Therefore, to provide all informants with a shared understanding of my research context, I began interviews by presenting summarized definitions of key notions from part 2 Theoretical background, i.e., GHGs, resources, capabilities, and the formalization of a capability. In addition, an earlier version of Figure 1 was displayed to illustrate the link between these concepts and profitability. I ended this introductory part each time by asking interviewees if they had questions and were ready to move to the answering part. After approval, we moved to the latter, framed by a pre-determined question order (illustrated in Figure 2), where interviewees could nevertheless go back and forth if needed (which happened hardly ever: it only occurred rarely to read definitions from the introduction – e.g., of formalization – again).

To collect the most direct and developed answers to my research question, I split the latter into five open questions (e.g., “how” wording) (Knott et al., 2022, p. 3). Indeed, the topics “Spontaneous thoughts” and “Relevance” were presented at the beginning to ensure the spontaneity of answers to my proposition and served as an introduction for the next part. This

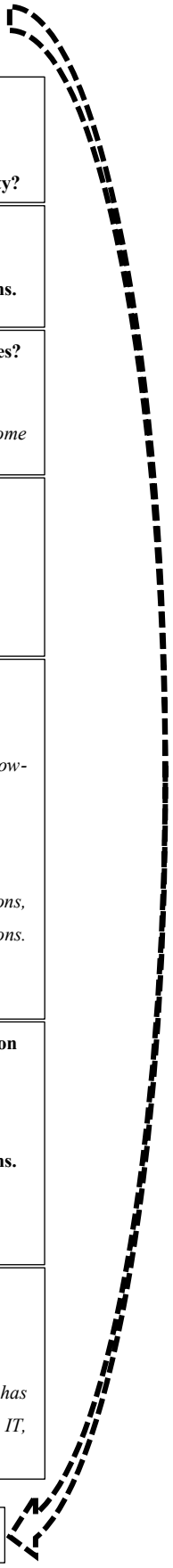
refining part focused on how the capability should be from economic, organizational, and operational views. Nonetheless, after interviewees dived deep into answering my research subject, I reserved time for two additional questions so that they could take hindsight on the relevance of my proposition and add depth in case of further remarks or uncovered topics (Knott et al., 2022, p. 2). Since my questions were open and rather abstract, I prepared some sub-questions to elicit inspiration in case participants would have missed it, triggers that helped several of them but were ignored by several others. Last, I reviewed my topic guide beforehand to be at ease and enable smoother interviews (Knott et al., 2022, p. 3). In addition, the procedure stayed the same over time, and I asked all interviewees the same questions.

3.1.4 Interviewing procedure, duration, recording, and preparation of collected data

For consistency in the data collection, I established and applied a to-do list of tasks before, during, and after each interview. The video call interactions were planned for less than one hour to balance the possibility of in-depth answers and a higher acceptance rate. Interactions rarely went beyond that. Around three minutes were used for onboarding and presenting the interview outline. Then, I informed participants I would start the recording and launched it after approval. For the interviews, forty-five minutes were planned: five minutes for presenting key notions and forty for collecting answers. I set around six minutes for the first six topics and the remaining time for the last. However, interviewees could take more or less time for each topic according to their wishes and the overall interview time limit. Interviews (i.e., recordings) took 43 minutes and 29 seconds on average, whereas the answering part (i.e., right after having explained key notions) reached a mean of 38 minutes and 32 seconds.

Before the first interview, I conducted a pre-test of the technical setting (i.e., computer, video call software, safety recording, quality of recording and transcription, identification of potential problems), a two-minute blank interview that ended successfully. This technical setup was strictly the same for each interview. The software used for video calls recorded audio data only (aiming at minimizing data collection (Erasmus University Rotterdam, n.d.)) and transcribed it in text. However, I had to thoroughly process the twelve transcripts manually while checking the concordance between all audio recordings and the text data. Nevertheless, using this tool helped me to extract the full data potential from interviews. Furthermore, I applied anonymization techniques to the data set. In parallel, to avoid wasting participants' time in case

TOPICS	QUESTIONS & *SUB-QUESTIONS*
1.Spontaneous thoughts	**What answers can you tell me about the following question?** **By formalizing their capability dedicated to reducing GHG emissions, can companies stop contributing to climate change while sustaining their profitability?**
2.Relevance	**How relevant is this proposition?** **To stop contributing to climate change while sustaining their profitability, companies could formalize their capability dedicated to reducing GHG emissions.**
3.Economic view	**How should this capability be from an economic view? Can you give me examples?** *- How to create revenues/finance/mitigate costs linked to this capability?* *- How to pay for capability's formalization without requiring an increase in income coupled to an increase in corporate GHG emissions?*
4.Organizational view	**How should this capability be from an organizational view? Can you give me examples?** *- What are its ties and interactions with other stakeholders within the company?* *- Who should be part of this capability?*
5.Operational view	**How should this capability be from an operational view? Can you give me examples?** *- Which GHG emissions reduction measures should be prioritized? (i.e., hot spots, low-hanging fruits)* *- Which skills profiles should compose this capability?* *- Which KPI would be relevant? (e.g., if a multinational group grows via acquisitions, group emissions could increase even if the capability already decreased other emissions. Hence, carbon emissions at the group scale would be an irrelevant KPI)*
6.Hindsight on relevance	**Now, would you modify your initial answer on how relevant following proposition is?** **To stop contributing to climate change while sustaining their profitability, companies could formalize their capability dedicated to reducing GHG emissions.** *If yes, what would you change? If no, why?*
7. Further remarks	**This is my last question:** **What would you like to say in addition?** *Please feel free: we can deepen or change a previous answer, discuss something that has not been covered (e.g., potential challenges and opportunities, new trends (green IT, digitalization, AI), etc.), you can ask me questions, as you want!*



PRE-DETERMINED (but FLEXIBLE) ORDER

Figure 2: Topic guide architecture I adapted from Knott et al. (2022, p. 3, Figure 1) to my research work: topics for tackling my research question are presented on the left, facing the associated interview questions and sub-questions (in italics) (KPI stands for Key Performance Indicator)

of technical problems (e.g., a fifteen-second internet interruption happened once but did not impact the recording), I conducted a safety recording and careful notetaking during each interview, following advice from Knott et al. (2022, p. 4). As they indicated, after each session, I listed the major insights, how the interview matched with previous ones (in terms of content as well as the flow over each part), my overall impressions on our interaction, as well as incidents (e.g., interruptions due to external noises). Luckily, no major incident happened during this phase, and one participant did not activate the camera.

3.2 Data analysis (coding)

To perform the thematic analysis of gathered data, I directed towards an abductive approach, as advised by Knott et al. (2022, p. 7). Hence, I applied the GM, aligning as much as possible with the recommendation from Gioia et al. (2013) and Magnani & Gioia (2023). This coding methodology was chosen to bring transparency and structure to the analysis of the obtained qualitative data (Gioia et al., 2013, p. 20). Moreover, the GM was deemed particularly appropriate since the studied capability is one type of "*complex organizational phenomena*" (Magnani & Gioia, 2023, p. 8).

3.2.1 1st-order rubrics

I had never coded qualitative data before. Therefore, I first sought to understand how that worked. Hence, I skimmed examples given by Magnani & Gioia (2023) and focused on Box two from page five in their article[6], exemplifying 1st-order codes from empirical data. I tried to understand the data and their codes and compared them with how I would have coded these interview excerpts (e.g., for their second example illustrated in their Box two, I would have coded: intonation and its meanings are complex to understand). This helped me to evaluate my subjectivity.

[6] I invite readers to consult the latter for obtaining a glimpse on my subjectivity.

Second, I created a spreadsheet file organized into seven tabs (i.e., one for each interview topic), tabs structured by twelve double columns (i.e., one double per interviewee, each divided in one column for raw verbatim, that I copy-pasted in a second column to summarize the meaning while keeping as much as possible participants' terms, which formed individual prototypes of 1st-order rubrics) and variable numbers of lines (i.e., I assigned to sub-questions lines that I filled with verbatims explicitly described by interviewees to answer these sub-questions but also verbatims that fitted these; moreover I kept free lines for excerpts that were not fitting sub-questions and for questions without sub-questions).

This step enabled me to extract only relevant excerpts from the raw data text file and visualize the whole corpus easily by structuring it. For instance, from the following excerpt in the text file (answering the question on organizational view) "*No, I, I can make it short and simple, because I think the organizational view, at least in my understanding, I've already touched up on it a little bit right? So, it's, it's very important that everyone is part of the journey.*" (I2)[7], I only copy-pasted "*So, it's, it's very important that everyone is part of the journey.*" in the spreadsheet, i.e., in the tab on the capability's organizational view, in the column attributed to I2, in the line dedicated to the sub-question "What are its ties and interactions with others stakeholders within the company?" (see Figure 2), and marked it in a specific color. Indeed, to facilitate transparency over the whole process, I assigned twelve colors to each interviewee's verbatims and kept them consistent.

Third, I read all individual (i.e., from each interviewee) prototypes of 1st-order rubrics and synthesized them into global prototypes of 1st-order rubrics (I attributed a cell to each one with a face-to-face cell gathering interviewees' most representative verbatims) for each tab, trying to align the twelve interviewees as much as possible but also balancing these decisions with what appeared me the most insightful quotes to answer my research question. Indeed, I tried simultaneously to limit to one hundred – I obtained one hundred and nine – global prototypes of 1st-order rubrics (Gioia et al., 2013, p. 20). This resulted in some global prototypes encompassing most participants' statements, whereas others only originated from one or two interviewees. However, verbatims from some interview parts matched better with prototypes developed on other tabs. Therefore, I moved them accordingly. In the end, some 1st-order rubrics prototypes did not match anymore with the tab title where they were located, e.g., my global prototype for the 1st-order rubric on the cross-functional sustainability team (see Table

[7] Interviewees are indicated in brackets directly after their quotations, as such: (I1) for interviewee 1, (I2) for interviewee 2, etc. My interventions (in appendices) are referred as: ***Me***.

4) ended up on the tab used to sort interviewees' first thoughts even if it could have been argued this prototype matched better the tab on the organizational part. Further, to exemplify this third step, I classified I2's quote previously stated in the global prototype (too long to be detailed here, i.e., 137 words) that would later serve to create the 1st-order rubric "A sustainability-in-its-core company makes sustainability a profitability driver by aligning and educating everyone …" (see Table 4). Additionally, to avoid forgetting individual prototypes, I changed the background color to grey each time I processed a cell.

Nevertheless, the resulting repartition of these global prototypes on tabs was not impairing as in the fourth step, I copy-pasted all of them on a further tab, basis that I used for synthesizing them into sixteen final 1st-order rubrics, following the limit of thirty (Gioia et al., 2013, p. 20). To achieve this last step of my inductive analysis, I compared the global prototypes according to "*similarities and differences*" (Gioia et al., 2013, p. 20) and kept as many as possible participants words to name the rubrics. To avoid forgetting global prototypes, I changed its background color to grey each time I processed a cell. In addition, I selected the most representative verbatims during this process, illustrative verbatims that I later used in the part 4 Findings. Moreover, while having taken care not to change meanings, I tried to correct typos in interview excerpts (e.g., unnecessary plural form, etc.) before presenting these in the thesis.

3.2.2 Towards the grounded model: 2nd-order topics, aggregated dimensions

Fifth, I copy-pasted the 1st-order rubrics on a further tab dedicated to the deductive phase of my abductive process. Thus, I compared the sixteen rubrics with the theoretical notions I explained in part 2.1 Theoretical foundations, reading some parts of the corresponding literature references again and trying to associate each rubric with specific terms, concepts, or at least the overall spirit of these theories. For instance, my 1st-order rubric "A sustainability-in-its-core company makes sustainability a profitability…" (see Table 4) perfectly matched the sustainable development strategy through a shared vision described by Hart in the Natural RBV.

In parallel, I sought to link the 1st-order rubrics and their associated theoretical connections to one another. This led me to gather them per theoretical foundation, i.e., the Natural RBV, the DCF, and the Dynamic RBV. These clusters resulted in five 2nd-order topics. To exemplify, the 1st-order rubric named "Shift company's DNA towards GHGs reduction through decentralized capability and cross-functional sustainability team" mainly aligned with the notions of pollution prevention strategy and sustainable development strategy from the Natural RBV. Furthermore,

it matched innately with the 1st-order rubric “Revisit products from their design to make them super interesting to customers but also sustainable”, which I had tied to the product stewardship strategy described by Hart. Indeed, both linked via the Natural RBV. Therefore, I gathered them in the “Pollution prevention, Product stewardship, and Sustainable development” 2nd-order topic, further strengthened by four other 1st-order rubrics linking through this theory.

Sixth, I aggregated the five 2nd-order topics into three higher-level dimensions (Gioia et al., 2013, p. 20) by trying to summarize which theoretical aspects from the used frameworks linked them. To illustrate, the previously mentioned 1st-order rubric “A sustainability-in-its-core company…” (see Table 4) contributed to obtaining the 2nd-order topic “Sustainable development strategy/shared…” (Table 4). In turn, that 2nd-order topic matched the above-described topic “Pollution prevention…”. Both connected to the Natural RBV and, therefore, tied together through the latter. Indeed, their common theoretical aspect was the “Sustainable development strategy”. Hence emerged the corresponding aggregated dimension.

Seventh, this overall process led me to the data structure in Table 4. Nonetheless, due to time constraints, I could not dive into new literature like the GM proposes, that is, further than what I achieved for developing my theoretical background. Still, this approach can also present advantages (Gioia et al., 2013, pp. 21, 26).

However, I already had collected broad theoretical insights, which enabled me to perform abduction and thus build the grounded model in a manner that shows dynamic connections between data and theories. Indeed, this was the final, eighth step.

4 Findings

As indicated in the GM, this part is titled Findings rather than Outcomes since this is more appropriate for qualitative research (Gioia et al., 2013, p. 28). The findings reported below suggest three aggregated dimensions for the studied capability and its formalization, i.e., sustainable development strategy, processes and asset positions, and the capability lifecycle (see Figure 3). A potential basis for such a capability seems to emerge from their continuous, reciprocal interaction.

4.1 Investigation objectives

Overall, the collection of empirical data through interviews aimed at gathering insights from professionals on how relevant this proposition is: By formalizing their capability dedicated to reducing GHG emissions, can companies stop contributing to climate change while sustaining their profitability? More importantly, the investigation served to answer how this capability should be from economic, organizational, and operational views.

From an analytical perspective, the data collection aimed at achieving an abductive analysis. The first objective was to perform an inductive analysis to generate 1st-order rubrics from raw interview data (see Appendix table 2 for an overview of the most illustrative verbatims corresponding to each 1st-order rubric). The following step aimed at linking these findings to theoretical foundations using a deductive process leading to 2nd-order topics. This two-sided analysis aimed at obtaining a data structure (presented in Table 4) from the interview corpus, serving the overarching goal of developing a grounded model (see Figure 3). The latter aimed at setting the previously obtained data structure in motion.

4.2 Sustainable development strategy

The findings presented in this section resulted from applying the Natural RBV during the deductive analysis and abduction.

4.2.1 Reducing corporate GHG emissions while sustaining profitability can be conflicting, but a shared vision seems to help

Reducing corporate GHG emissions while simultaneously sustaining profitability emerged as conflicting, "*Hmm, some can. It is very difficult for some companies in specific sectors to be able to do that. They might have to change line of business*" (I9). Furthermore, as I2 said, "*people* (…) *only have like 8 h per day, right? And if they spend 1 h on, on sustainability* (…) *7 h are left from the day* (…) *some people might see a conflict of interest, let's say, between profitability and sustainability*". In addition, I10 voiced that "*We all hope that they can do* (…) *something that* (…) *stops the climate change, but still sustain*[s] *their profitability*".

Table 4: Data structure I obtained from coding the twelve interviews (table structure inspired by Corley & Gioia (2004, p. 184, Figure 2))

1st-order rubrics	*2nd-order topics*	*Aggregated dimensions*
The proposition is relevant. However, sustaining profitability can be conflicting.	Sustainable development strategy/shared vision (success factor for reducing GHGs while sustaining profitability)	Sustainable development strategy
Sustainability-in-its-core company makes sustainability a profitability driver by aligning and educating everyone within the company on sustainability strategy, enabling to reduce costs, maintain customer contracts, and generate new revenues		
Shift company's DNA towards GHGs reduction through decentralized capability and cross-functional sustainability team	Pollution prevention, Product stewardship, and Sustainable development	
Internal and external stakeholder management is key to success		
Knowledge and formalized GHG emissions reduction capability should be shared within the company and with other stakeholders: make them open source and learn from others		
Revisit products from their design to make them super interesting to customers but also sustainable		
Supply-chain management is a crucial reduction lever (impacts Scope 3, typically 60-90% of a company's emissions)		
Regulations force companies to reduce their GHG emissions, particularly in the EU		
Both absolute and relative GHG emissions should be reduced and measured consistently to obtain comparable quantitative and qualitative KPIs[8]	Implement processes for corporate GHG emissions reduction	Processes and asset positions
From management board's remuneration to climate-friendly travel policies, implement GHGs reduction business conduct/governance		
Operationalize GHG emissions reduction: build transparency and adopt systematic, holistic management and investment approaches		
Formalizing corporate GHG emissions reduction capability will incur costs/company-wide investment	Manage asset positions for corporate GHG emissions reduction	
Scope 2 emissions: increasing energy efficiency and renewables can save costs		
How to prioritize GHGs reduction measures? Start with low-hanging fruit measures that make you instantly more profitable to increase motivation and budget for working on the hot spots as soon as possible. Combine this approach with double materiality assessment (CSRD[9]).	Capability's evolution in time and space	Capability lifecycle
Skills profiles in the GHGs reduction capability depend on where emissions come from and company's field/size/business model (product vs. service)		
Innovate to reduce GHG emissions: think outside the box, apply new concepts, turn it into a game		

[8] KPIs stands for Key Performance Indicators
[9] CSRD stands for Corporate Sustainability Reporting Directive.

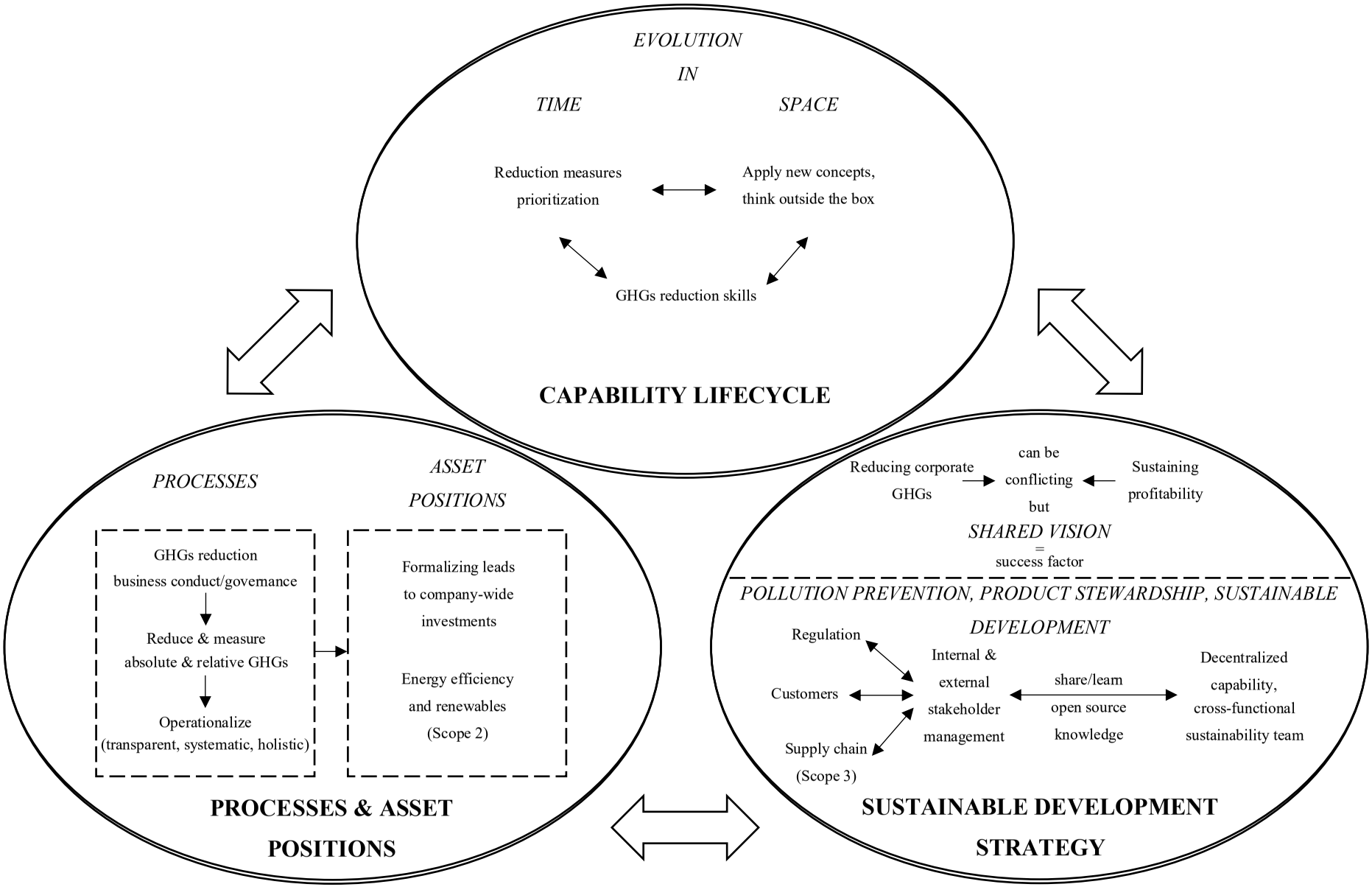

EVOLUTION
IN
TIME
SPACE
Reduction measures prioritization
Apply new concepts, think outside the box
GHGs reduction skills
CAPABILITY LIFECYCLE
PROCESSES
ASSET POSITIONS
GHGs reduction business conduct/governance
Reduce & measure absolute & relative GHGs
Operationalize (transparent, systematic, holistic)
Formalizing leads to company-wide investments
Energy efficiency and renewables (Scope 2)
PROCESSES & ASSET POSITIONS
Reducing corporate GHGs
can be conflicting but
Sustaining profitability
SHARED VISION = success factor
POLLUTION PREVENTION, PRODUCT STEWARDSHIP, SUSTAINABLE DEVELOPMENT
Regulation
Customers
Supply chain (Scope 3)
Internal & external stakeholder management
share/learn open source knowledge
Decentralized capability, cross-functional sustainability team
SUSTAINABLE DEVELOPMENT STRATEGY

Figure 3: Grounded model I developed based on the data structure extracted from the twelve interviews (aggregated dimensions are in bold, 2nd-order topics in italics, and 1st-order rubrics were condensed)

Nevertheless, if the company "*educate*[s][10] *each and every one*" (I2), making sure "*everyone is aligned on* [its][10] *strategic agenda in becoming more sustainable as a company* (…) *it becomes more of a profitability driver than being like the contrary of profitability*" (I2). Indeed, "*everyone in the company must build certain capabilities when it comes to, to sustainability (...) decarbonization*" (I2), particularly salespeople so that the company can "*earn the fruits of being more sustainable*" (I2). In other words, a shared vision seemed to be the success factor in combining both objectives.

Such "*sustainability in-its-core*" (I2) companies realize "*cost reduction*" (I2), "*get better access to funding*" (I2), "*access new markets*" (I2) hence increasing "*revenues*" (I1), and "*people actively choose them because of their initiatives*" (I5). Concerning "*customer requirements*", firms that "*don't deliver on ESG*[11] (…) *just lose contracts*" (I7), representing "*opportunity costs*" (I8) materialized by "*the turnover that* [firms] *lose for that customer*" (I8).

4.2.2 Pollution prevention, product stewardship, and sustainable development strategies

Companies aiming at becoming "*climate neutral*" (I11), i.e., preventing pollution through their GHG emissions, should shift their "*DNA*" (I11) in this direction. This seemed to require developing a decentralized capability and a "*cross-functional*" (I12) sustainability team. Indeed, "*the ideal setup is that these capabilities are not concentrated in one single function or in one single location, but that they are* (…) *distributed* (…) *throughout the company so that each function* (…) *develops sustainability-related capabilities, or let's say capabilities that contribute to stop climate change*" (I1). Moreover, with "*DNA*", I11 meant "*the board of management needs to know about it,* (…) *the top management*[,] (…) *employees, especially* [those] *talking to customers and* (…) *suppliers*". Indeed, this "*shift*" (I3) of "*sustainability and carbon management*" (I3) also happens towards a "*strategic and operational perspective where the operational departments play a role* (…) [and,] *very importantly, the procurement*" (I3). A

[10] Letters, words, and punctuation in square brackets were not said by interviewees but were inserted (hence sometimes replacing the original words, e.g., "[its]" replaces "*your*" (I2)) to better the reading experience without modifying the meaning of the interviewee's statements.
[11] ESG stands for Environmental, Social, and Governance.

transition occurring as well "*from the sustainability department to the financial department*" (I9) in "*companies in the forefront*" (I9). These insights pointed towards the adoption of a sustainable development strategy.

Further, managing suppliers appeared as a crucial reduction lever since I7 answered me that "*the majority of GHG emissions usually don't occur within the company* (…) *85 to 90% is usually scope 3, so outside of your direct control*", digits that I8 also mentioned: "*60 to, to even 90%*". However, it was reported to require starting "*very early in the process, which means in product design*" and needed to "*create products that are super interesting to customers, but also sustainable*" (I8). In other words, managing stakeholders "*both internally and externally*" (I7) seemed particularly important and even a "*key to success*" (I11). For instance, "*NGOs* (…) *can be very relevant*" (I10). Additionally, I7 argued that promoting "*sustainability externally*" could have "*a positive impact internally*" thanks support "*from the board of management if they can go out and say: "Look at us, we're doing really great"*". Last, many participants mentioned the regulations on GHG emissions reduction, particularly in the EU, e.g., "*the EU will provide* (…) *that wish* (…) *to reduce their emissions*" (I9), "*the EU taxonomy,* (…) *the CSRD*" (I10). These insights pointed towards the adoption of a product stewardship strategy.

On collaboration, I12 even went a step further by mentioning, "*there should be an effort made to share breakthroughs so that people, other companies can benefit like you can* (…)[,] *moving away from the classical example because the clock is ticking and we all have to come together, work together to make sure that we do reduce the temperature that's out there so that planet Earth can survive this*". I4 also evoked that "*no company at all* (…) *will be profitable* (…) *on a* (…) *planet struggling with extreme weathers and the different effects of climate change*", an additional problem being that "*knowledge is not shareable*". Therefore, I4 proposed that GHG emissions reduction knowledge and the formalized capability should be shared "*inside a company* (…) *or even better, shared with other companies*", and "*in the best case, open source to, to tackle climate change*".

4.3 Processes and asset positions

The findings presented in this section resulted from applying the DCF during the deductive analysis and abduction.

4.3.1 Processes

First, "*Building up the capability to reduce climate change impacts*" (I11) appeared to require dedicated processes. Indeed, as I11 explained, reducing corporate GHGs involves "*governance*" and a "*business conduct*" (e.g., "*climate-friendly travel policy*" (I6)). It appeared to target specific groups, e.g., by connecting emissions reduction "*to the remuneration of the (...) board of management*" (I11) ("*using* [the] *Greenhouse Gas Protocol*" (I10), for instance). However, I11 also mentioned targeting the entire company through "*awareness trainings*" for all employees, so that everyone understands "*what does it mean to reduce this carbon footprint*". Furthermore, I12 stressed "*that the senior managers*" should "*show and demonstrate consistently (...) interest in reducing greenhouse gas emissions*".

Second, "*going through this transition*" (I12), I12 declared companies should "*track their actual* (…) *or estimated emissions from whatever they're doing, and to show, and to keep reporting that as they progress*". "*Generally, I think absolute greenhouse gas emissions should always still be the number one KPI to look at*" indicated I6, before precising on relative emissions that "*if the company grows*", these are "*probably* (…) *a good KPI to look at. But then we will not solve the problem of climate change*". I3, I4, and I7 also mentioned the importance of reducing absolute emissions over relative ones. However, about emissions measurement, I3 reported that "*the quality of data and KPIs which are available out there*" is challenging "*because they are not complete,* (…) *not comparable*". I6 indicated a potential solution through calculating "*emissions with the Greenhouse Gas Protocol*" since "*it's comparable to other companies, and then you can see in the different categories, where is the hot spot*". Last, I3 contrasted the point by arguing that "*for procurement decision from supplier A or* (…) *B* (…) *a qualitative indicator might be sufficient*", nevertheless, if "*this performance indicator* (…) *needs to be linked to the accounting system*", a quantitative one should be preferred.

Third, I8 claimed that reducing GHG emissions while sustaining profitability requires to "*operationalize the decarbonization*": "*management needs to be capable of managing this, just as, for example, cash and profitability*, (…) *and other financial KPIs*". This systematic process should enable a company to make "*decision* [on] *where to allocate its capital and its investments best* (…)*, all investments should have these two perspectives – financial perspective and also, greenhouse gas emissions*" (I8). An investment approach that could be described as holistic since "*also investments that are not related directly to* [a firm's] *greenhouse gas reduction roadmap should be analyzed in regards to their carbon* (…) *potential*" (I8). In line with I8, I12 added that these "*measurement systems*" should serve to "*identify* [a firm's]

progress and where possible monetize (…) [its] *process*". To summarize, such processes should enable to "*focus the capabilities where* [a company has] *the best* (…) *return on investment* (…) *concerning climate change*", by avoiding "*to invest (...) for an emission source which only plays a minor role*" (I3). In other words, corporations should build transparency, as I7 answered me: "*if you have it formalized, you have a budget. You have a clear indication of what expenses you have, and that will help you to potentially have a positive impact on your profitability*".

4.3.2 Asset positions

As reported above, processes should enable the management of corporate investments, i.e., asset positions. Formalizing a capability for reducing corporate GHG emissions will incur costs. Indeed, as I3 replied to me on this point, "*at some point of time, you need to accept that you have to invest money. And you are not sure whether it will pay off*", depending on the firm's "*future situation, whether there will be the cost driver by emission certificates, whether there will be a market, whether competitors will gain momentum due to a better efficiency*". Further, I2 reported to me these investments should take place on a company-wide scale: "*if you think about resources and capabilities, you need to invest in, in both actually,* (…) *you need to offer new positions, but you also need to invest in capability building of these positions* (...) *but also totally different groups in your company* (...) *such as HR or procurement*". Furthermore, I8 declared that the supply of less GHGs intensive raw materials can be unfavorable from a cost perspective, e.g., "*today, virgin plastic* (…) *made of fossil raw materials* (…) *are way cheaper than* (…) *recycled plastics or plastics made of renewable materials*".

However, asset positions also appeared to represent a cost-saving potential. On this matter, a topic emphasized several times by interviewees was to increase companies' renewables and energy efficiency (e.g., by replacing the "*energy provider*" (I11), by "*implementing a photovoltaic system* (…) [, an] *industrial heat pump*" (I8), by investing "*early in renewable energies* (…) *to reduce the energy costs in the long term and in some* (…) *cases* [even] *today*" (I8)). To coin I11's statement: "*scope 1 should be priority two. But scope 2 should be priority one*".

4.4 Capability lifecycle

The findings presented in this section resulted from applying the Dynamic RBV during the deductive analysis and abduction.

4.4.1 Temporal evolution

Prioritizing measures for reducing GHGs defines the capability over time. Set forth by I8, a guiding principle to sustain profitability in doing so was to "*start with* (…) *measures that are making* [a company] *instantly more profitable*" so that the latter could "*use the time when the other technologies are becoming less expensive to then do them at* [this] *later stage, when they make* [it] *probably even more profitable*". Further, I11 argued that "*low-hanging fruits should be* (…) *the first steps* (…) *because having* (…) *small moments of success might increase motivation to do more*". Yet, as I10 coined: "*this is only a step*" and the capability should then "*move on*". Indeed, I7 claimed that "*a combination*" of measures having a bigger impact should be implemented. For such measures, I3 warned me on time management: "*you have easily 5 to 6 to 7 years before you have started a not low-hanging fruit project. This is why you should start right away identifying such kind of projects,* (…) *triggering the respective measures right away*". Besides, planning the emissions decrease appeared to imply a company's adaptation to evolving regulations, e.g., I1 reported "*the so-called materiality assessment under the CSRD*", mentioning that "*now it's becoming* (…) *obligatory* (…)[,] *with a double materiality approach*".

As its lifecycle advances, these measures change the capability over time. Indeed, "*skills and profiles*" (I2) needed for the latter precisely depend on "*the relevance of where emissions come from*" (I3), "*the size of the company*" (I7), its "*business model*" (I2, I3) (e.g., "*a product facing company* (…) [or] *a service company*" (I2)), and its "*field*" (I4) (e.g., "*IT company, or* (…) *production facility for steel*" (I4)).

4.4.2 Spatial evolution

"[F]*or social insurance or securities in Germany (...) for example, the employer always pays 50% of the cost. So, we said, okay, why does this not apply* (…) *to the climate as well? Right? So why don't we pay 50*[%] *of the* CO_2 *footprint of our employees?*" (I6). This innovative proposition was accompanied by those of several participants who also proposed such cross-sectoral incorporation of concepts within the capability, pointing out its spread in space. Indeed,

I4 proposed to adapt "*the merit order*" concept normally used "*on the market* (…) *for electricity*". Whereas I12 recommended to "*reduce the cost or improve the efficiency*" by "*turn*[ing] *it into a game*". And I6 argued that "*thinking outside the box and not* (…) *in just a very strict, a general business way can be very important*" (I6). Eventually, I9 voiced a last resort for innovating: "*there will need to be a new logic for companies… for the foundation of a company*" with the "*primary focus*" of "*not harm*[ing] *the outside world, including emissions*". Thus, the capability – and company – would evolve by integrating concepts from other fields or industries, changing respectively the skills profiles (see 4.4.1 Temporal evolution) required in the latter.

5 Discussion

I was impressed by several interviewees' keys to implementing a corporate GHG emissions reduction while sustaining profitability. These are summarized in the following pages. Furthermore, this work presents some limitations. Indeed, although the research question focused on GHG emissions, the terms GHGs, carbon emissions, and sustainability tended to be used interchangeably by participants (e.g., "*sustainability-related capabilities, or let's say capabilities that contribute to stop climate change. I mean, at the end of the day, we're talking about the same thing more or less.*" (I1)). Such limits are also approached below.

5.1 Relevance of formalizing a capability for reducing GHG emissions while sustaining profitability

Most participants found the proposition summarized in my research question relevant (as illustrated in Table 4 and Appendix table 2), i.e., companies could formalize their capability dedicated to reducing GHG emissions to stop contributing to climate change while sustaining their profitability. Yet, the intensity was variable among informants, from moderate opinions, e.g., "*yes, it is relevant. But it's not the only relevant driver.*" (I1) or "*it's medium or medium-high relevant*" (I11), to categorical judgments alike "*it's not a could* (…) *it's a must*" (I2) or "*I don't think they could. I think they must formalize that capability* (...) *And so, for me, formalization is absolutely key and at the same time, only formalization will help* [companies] *to reduce*" (I7). Therefore, the presented findings and the grounded model (see Figure 3) offer a view of what companies should aim at when formalizing their capability for decreasing GHG

emissions while trying to maintain profitability. Indeed, formalizing focuses mainly on developing a capability towards specific objectives, no matter which development level the GHGs reduction capability of companies already reached. Thus, the findings suggest that companies might have to concentrate on the three dimensions highlighted, the respective 2nd-order topics, and the corresponding 1st-order rubrics (further complemented by the part 4 Findings and this discussion). In that sense, by characterizing such a capability, the thesis may help structure corporate demeanors seeking to combine the diminution of GHGs with profitability. Consequently, my work seems to advance research by filling gaps in previous literature.

5.2 Methods limitations

First, regarding my study design, interviews present intrinsic limitations. These range from the sample of interviewees – relatively narrow to generalize my findings – to behavioral biases due to the unnatural context of interview interactions (Knott et al., 2022, p. 13), e.g., recorded conversations can have different consequences than free ones. However, my findings should be at least relevant for companies operating in Germany due to the corresponding constellation of participants. Furthermore, I attempted to restrain previously mentioned biases by putting participants at ease thanks to anonymization techniques applied to the collected empirical data. Last, from a language perspective, I am not a native English speaker, like many interviewees, which could influence the meanings of my findings.

Second, a further limit comes from my interview sample's small share of women. This under-representation could explain why none of my raw empirical data mentioned the importance of female board members for lower corporate GHG emissions (see part 2.2.2 Organizational overview: the importance of research and development (R&D) capabilities and women in boards for lower corporate GHG emissions). Additionally, my interview period occurred in the summer. This made it difficult to reach potential interviewees (e.g., I received numerous automatic email answers because of vacation). Last, to address common limits of qualitative research, my use of the GM should have increased the findings' transferability to any context comparable to my thesis (Magnani & Gioia, 2023, p. 8).

Third, after having created my topic guide and while deepening further my knowledge of the GM, I discovered I had designed it in the complete opposite way as what its authors illustrated, in that I began all interviews by explaining to participants theoretical notions from the literature,

what may have resulted in a confirmation bias on such theories (Gioia et al., 2013, p. 17). However, my foremost intention in using the GM was to access a guideline for coding, not for interviewing. Further, I cannot answer how I would have explained the whole interview context to informants alternatively since the latter was anchored in the literature. To pursue the discussion on notions' definitions in my topic guide, I must underline I did not define profitability to informants. Indeed, I assumed its understanding in the most basic meaning of corporate context. In this introductory part, I neither defined hot spots (measures with substantial GHG emissions reduction potential) nor low-hanging fruit measures (easy measures to reduce GHG emissions). Thus, each interviewee interpreted these words subjectively, e.g., I6: "*there are some* (…) *emissions that are maybe lower,* (…) *easier to reach like low-hanging fruits*[,] (…) *maybe they have a* (…) *more emotional or* (…) *easier to understand potential*[,] (…) *like travel emissions.*", and I7: "*But low-hanging fruits aren't necessarily the ones with the biggest impact. So, I think* [a company] *should always be looking at which are* (…) *hot spots,* (…) [its] *biggest levers to reduce emissions*". Last, my sub-questions (see Figure 2) influenced, to a certain extent, the direction of the informants' answers. These sub-questions originated from interrogations I developed when I applied to write this thesis. However, I adapted the sub-questions before interviewing to match my final research question.

Fourth, when analyzing my data, I got the impression I could not exploit the CLC and the Dynamic RBV as much as desired. However, these impressions are subjective. By definition, a capability's formalization concentrates on the Dynamic RBV. Yet, my definitions of resources and capabilities framing the thesis resulted from the convergence of the complete theoretical corpus since some theoretical foundations had indicated limitations. Still, all had revealed some relevant aspects, complementing appropriately towards corporate GHG emissions reduction while maintaining profitability. Consequently, formalizing this specific capability could not be restricted to the sole Dynamic RBV. Furthermore, all gathered theoretical streams originate from the RBV. As I could not foresee future empirical results, it appeared clear during the analysis that I should merge these streams for a comprehensive approach. In addition, a detailed description of the CLC would have consumed the useful time needed for collecting answers and could have focused the informant's insights too much, risking threatening their characterization of the examined capability.

Last, the time constraint obligated me to deviate from Gioia's principle of collecting and analyzing data simultaneously (Gioia et al., 2013, p. 20). Therefore, my topic guide did not

change over time. The remaining time also canceled my intention to use a coding software, even if its usage was mentioned in the interviewees' consent form.

5.3 Organizational view

Formalizing the reviewed capability seemed to require a structured process within the company (e.g., corresponding business conduct and sustainable development strategy). Indeed, aligning with Chevrollier et al. (2024, p. 976), the important role of top management in reducing corporate GHGs was highlighted by participants, e.g., "*it's important that this sustainability team is linked somehow to the decision makers (…) quite close to the CEO*" (I6), and "*key part here is that you have a sponsor within the executive board. So, on C-level, not below that (…) ideally the CEO*" (I7). To precise this insight, Zhang et al. (2023, p. 1966) reported that such decision-makers foster emissions decrease when characterized by strong sustainability values. From an external stakeholder perspective, Zhang et al. also pointed out clients and competitors as major drivers for diminishing carbon emissions.

Indeed, my findings outlined the role of stakeholders and collaboration as pivotal (e.g., "*we all have to come together and work together, none of us is as smart as all of us*" (I12)), as Cenci et al. (2023) and Lewandowski & Ullrich (2023) highlighted. Thus, cooperation with suppliers and other companies, pointed out by Chevrollier et al. (2024, pp. 975, 976) as a facilitator for the seizing micro-foundation of DCS, seems to also apply to my findings. In addition, Lopes de Sousa Jabbour et al. (2020, p. 1377) presented the bettering of employee's knowledge of low-carbon practices as an efficient way to overcome potential obstacles in their implementation. This harmonized with the shared vision outlined in my findings since the latter appeared as a potential success factor for profitability, i.e., educating and aligning everyone within the company on the sustainability strategy was reported as a profit enabler. Further, Lopes de Sousa Jabbour et al. also underlined that workshops and discussions with suppliers about the feasibility of carbon reduction measures should enable to overcome potential barriers in their implementation. To broaden these insights, Chevrollier et al.'s (2024, p. 977) findings outlined that establishing a "*train the trainer*" pattern could help companies spread GHGs reduction knowledge among employees.

Sharing knowledge through collaboration with all stakeholders was indeed described as an important organizational factor, as illustrated by the respective 1st-order rubric. This rubric is similar to the DCS micro-foundation *transforming* noted by Chevrollier et al. (2024, p. 968).

However, it also expanded to sharing the capability and invited to adopt an open source approach. In that, it diverges from Chevrollier et al. Furthermore, as detailed in part 2.1.2 Resource-based view (RBV), the RBV imposes on a firm's resources to respect the VRIN conditions to contribute to its sustained competitive advantage, which in turn would trigger profitability. Therefore, the RBV does not explain this finding, as open source opposes practices fostering rareness, inimitable characteristics, and non-substitutability. As extensions of the RBV, the Natural and the Dynamic RBVs, as well as the DCF (Teece et al., 1997, p. 513), and the knowledge-based theory of organizational capability (Grant, 1996, p. 375) do not enlighten this finding. Therefore, the latter might appear as a contradiction and invites to be explored through further research. An interrogation that could be formulated as follows: Should V get rid of RIN? Nevertheless, adopting a reflexivity perspective should temper this suggestion. Indeed, another researcher working in the same setting as me could have granted less importance to the verbatim on open source knowledge. Yet, this remark could apply to my whole work as it stays a qualitative thesis. Alternatively, this unexplained finding could also suggest that GHG reduction might be an enhancer for companies' competitive advantage in their field of activity rather than a plain competitive advantage in itself.

Last, when linking the grounded model to definitions from part 2.1.6 Synthesis: definitions of resources, capabilities, and hindsight on companies' profitability, the examined capability seemed to align both dynamic and organizational features. Furthermore, to inform all stakeholders about GHGs, a company should first measure emissions, therefore mobilizing what Chevrollier et al. (2024) named the sensing micro-foundation of DCS.

5.4 Economic and operational views, and capability lifecycle

This part further deepens the grounded model on economic and operational views, as well as the CLC and the related aggregated dimension.

5.4.1 Economic view

Developing how such a capability could contribute to securing companies' economic viability, I7 mentioned that companies reaching a "*good ESG performance (…) are able to negotiate with* [their] *bank* (…) *a reduction in* [their] *interest rate*". Therefore, a sustainability-in-its-core

organization should also hire people with skills for negotiating with banks so that this capability could efficiently lower capital costs.

Another process this capability should work on is setting an internal carbon price (I4, I6, I8). Indeed, the latter could serve as an indicator in daily decisions (e.g., by leading to GHG emissions adjusted price of train or air travel (I4)). Yet, it could also help evaluate the monetary value of a company's emissions, which could then be used to invest this amount in the internal creation of capabilities (I6). Chevrollier et al. (2024, p. 975) included this pricing measure within the seizing micro-foundation of DCS. To illustrate what companies can expect from implementing such emissions internal pricing, Zhu et al. (2022, p. 65) reported this lowered emissions by 13.5% per employee and 15.7% per revenue in a sample of five hundred companies listed on the American Stock Exchange. Furthermore, this might enable companies to create internal GHG budgets. Indeed, budgets may help structure the capability's lifecycle by setting objectives in time. Budgets are strong controlling tools for short-term planning in managing corporations, associating monetarily evaluated planning figures with spheres of responsibility defined on a clear period, hence making the corresponding persons responsible for the adherence to the respective limited resource (Rathnow, 2014, p. 61). For instance, such budgets could be aligned to the global carbon budget of the company's industry, a measure which would be particularly suitable for those with high energy needs, like aviation, chemicals, or steel (United Nations Environment Programme - Finance Initiative, 2021).

These first economic insights on the capability should aim to tackle the costs of GHG reduction measures. If the prioritization of these measures may influence the capability's lifecycle, further aspects of the operational view must be discussed. Indeed, as Lewandowski & Ullrich (2023, p. 12) highlighted, some companies might struggle to invest efficiently in GHGs reduction.

5.4.2 Operational view

My findings harmonized with Cenci et al. (2023) and Lewandowski & Ullrich (2023), as interviewees often referred to what these authors described as process efficiency, energy efficiency, and innovation to reduce GHG emissions (e.g., "*Reducing greenhouse gases is a process that requires increasing the efficiency and, and let's say, innovating and both efficiency and innovation are drivers of profitability*" (I1), "*communicate*" (I1, I11, I12),). Interestingly, Haque & Ntim (2022, p. 3333) reported that committing to energy efficiency can increase the profit of sustainability initiatives. However, both authors also underlined technological

innovation and sustainable products or services towards this objective, an insight particularly relevant as these results were observed in companies from European countries.

Behaviors focusing on SDG 7 on clean energy, pointed out by Cenci et al. (2023), often appeared in informants' answers, as illustrated by the 1st-order rubric on Scope 2 emissions. In connection with the interviewees' sample, Kiemel et al. (2023, p. 435) reported that energy-related actions are essential for the manufacturing industry in the DACH region when it comes to diminishing emissions. However, in contrast to Cenci et al. (2023, p. 9), who observed that asset and procedures modification seemed to characterize companies unsuccessful in aligning with the Paris Agreement objectives, my findings directed toward implementing such measures, as exemplified by the corresponding aggregated dimension. Therefore, such actions seem challenging to execute successfully. However, a potential answer to this problem may have been given by I8, i.e., "[i]*t's really about this operationalization*" (see corresponding 1st-order rubric). A vital tool mentioned by the latter to achieve this was the "*marginal abatement cost analysis*" (I8), reported to enable carbon reduction measures evaluation on a graph according to their profitability (e.g., X-axis: net present value, Y-axis: reduction potential), thus helping in prioritizing.

Merging various interviewees' answers – but mainly I8's quotes – enables to precise the grounded model part on processes and asset positions and supplies more tangible content to corresponding 1st-order rubrics. Hence, if starting from zero, the capability would have to operate as follows to reduce GHG emissions while sustaining profitability. The first measure would be to establish "*carbon accounting*" (I8), set an emissions baseline year, and measure the company's "*Scope 1, 2, and 3*" (I8) emissions. Second, the capability would "*create* (…) *a target*" (I8) – in line with Chevrollier et al.'s (2024, p. 976) seizing micro-foundation – and KPIs at the "*group level*" (I7) (as I8 stated, for instance minus 50% until 2030 in comparison to the 2019 baseline) as well as a "*reduction roadmap*" (I8) (by help of "*the Science Based Targets Initiative*" (I8)). Third, as I8 explained, it should "*back up* [its] *roadmap on a yearly basis with measures to reduce* [the company's] *carbon footprint*", e.g., with "*top technological changes*" or energy reduction ("*swap* (…) *from non-renewable to renewable*"). I8 further developed that the capability would identify these measures with the help of "*business cases*", i.e., by listing and computing the "*payback period*", "*internal rate of return*", "*net present value*", "*investment requirements*", "*CapEx*" (stands for Capital Expenditure), "*depreciation*", "*opportunity cost*" of losing customers and corresponding "*turnover*", and GHG emissions

taxes by using a "*standard way*" alike the norm DIN "*EN 17463*" on energy-related investments.

Operating in such a way might tackle the apparently inherent conflict in the mission of the studied capability since I8 argued that "*in a lot of cases people will be surprised how* (…) *much you can actually decarbonize with making your company more profitable and not less profitable, which is the commonly perception*", what provided clear answer paths to my research question, particularly by illustrating that operational measures for corporate GHGs emissions reduction could be simultaneously profitable. Moreover, I8 argued that this is "a *discussion of sufficiency* (…)*, how much profitability is enough profitability?* (…) *that's what an organization needs to get right*". Furthermore, Lewandowski & Ullrich (2023, p. 12) also recommended concentrating on actions with solid business cases while balancing decisions with the GHGs reduction potential of the latter. They also reported "CO_2 *emissions per dollar*" (Lewandowski & Ullrich, 2023, p. 12) payoff from such investments as an appropriate KPI for a company's management team. To offer further guidance on this matter, gathering all interviewees' insights on KPIs led me to Table 5. As most participants had management positions, the latter could give further relevant practice inspiration for other managers or anyone wishing to reduce GHG emissions while trying to sustain profitability in a company.

Table 5: KPIs and related remarks reported by interviewees

Absolute KPIs	***Relative KPIs (i.e., intensities, densities)***
<u>Summary</u> "*Overall GHG emissions*" (I1) ("*tons of* CO_2 *equivalents"* (I1), detailed for each type of GHG): "*number one KPI to look at*" (I6), must decrease over time (i.e., yearly comparison against baseline (I7))	<u>Summary</u> Enable "*pairs*" (I9) comparison independent of company's size to assess own performance (I9)
Energy: "*share of green electricity*" (I6) and "*energy consumption*" (I7)	CapEx, Operational Expenditure, turnover: carbon footprint in tons per euro (I11) Customer portfolio: "CO_2 [emissions] *per million of* (…) *revenues*" (I1) Investments: "CO_2 [emissions] *per million invested*" (I1)
Mergers & Acquisitions (M&A): compare acquired company's emissions "*before the acquisition to after*" (I7)	M&A: enable more clarity "*if you grow via acquisitions, then absolute targets might be misleading*" (I2)
Mobility: GHG emissions from "*travel"* (I6), kilometers driven by the "*company fleet*" (I11) yearly	"[E]*conomic intensities* (…) *are driven by many factors, so you can't see the direct impact of sustainability. There are factors of inflation, of your pricing*" (I2), therefore physical intensities were deemed better by I2 "[P]*roduct or service carbon footprint*" (I7): physical intensities "*should be linked to your business model"* (I2) (e.g., for automotive manufacturers: GHG emissions per "*kilometer driven by a* [produced] *car*" (I2))

Suppliers (Scope "*3.1*" (I6)): "*percentage* [who] *already has the science-based targets in place*" (I6), "*their climate performance*" (I6)	People: "CO_2 *emissions per employee*" (I1)

5.4.3 Capability lifecycle

After the development stage of a capability (but sometimes even afore), Helfat & Peteraf, (2003, pp. 1000, 1004) differentiated among six subsequent destinies: either *recombination*, or *redeployment*, or *renewal*, or *replication*, or *retirement*, or *retrenchment*, that can take place in diverse orders, if not concurrently, and that are influenced by the firm's background as well as external events (e.g., in the present case, climate change). To illustrate, adapted from an example of Helfat & Peteraf (2003, p. 1007), when a company first developed some GHGs reduction know-how for one product – hence contributing to its firm-level transformation DCS (Ortiz-Avram et al., 2024, p. 2976) – it could then recombine, redeploy, or replicate this starting capability on additional offerings (to couple the latter with new income streams) so that the company improves its past efforts return while enabling to further develop this GHGs-related capability.

As pointed out by informants, innovation could happen when the capability would internalize new concepts through cross-sectoral assimilation. In their typology of DCS (presented in part 2.2.1 Dynamic capabilities for sustainability (DCS) and profitability, Ortiz-Avram et al. (2024, pp. 2975, 2976, 2977, 2978) associated firm-level and network-level eco-efficiency DCS to incremental innovation, whereas firm-level and systemic transformation DCS were associated to radical innovation. Thus, the investigated capability should mobilize both types in its EI. Even if these authors clustered the four types of DCS, the grounded model embeds aspects from the four categories. For instance, the aggregated dimension of "Sustainable development strategy" illustrates the permanent integration of stakeholders' sustainability preoccupations in a company's operations, value chain, supply chain, and overall strategy. This suggests that formalizing a capability dedicated to GHGs reduction while sustaining profitability would lead a company to develop several subcategories of capabilities dedicated to that aim over time.

6 Summary and conclusion

To stop contributing to climate change while sustaining their profitability, companies could try formalizing their capability dedicated to reducing GHG emissions, as this appeared relevant. In that sense, this thesis may help structure corporate demeanors aiming at combining GHGs diminution and profitability by characterizing such a capability from economic, organizational, and operational views. Indeed, findings pointed towards three major interacting dimensions for the investigated capability and its formalization. These suggest that companies should seek to establish a sustainable development strategy, implement processes and manage asset positions correspondingly, and develop the capability over its lifecycle by prioritizing emissions reduction measures as indicated in the thesis. In addition, fostering a shared vision of the corporate GHGs reduction strategy appeared as a potential success factor for combining sustained profitability over time.

The findings seemed to contribute to confirming the Natural RBV, the DCF, and the Dynamic RBV. However, these theoretical foundations did not explain the findings exhaustively. Indeed, some informants proposed that companies should share their GHG emissions reduction capability and knowledge (e.g., making them open source). This call for collaboration among all companies and stakeholders for tackling climate change invites to be explored through further research, leading to an interrogation on the RBV that could be formulated as such: should V get rid of RIN?

To confirm or refute answers developed through this qualitative work, replicative studies may provide additional insights, discuss, or even refine the grounded model obtained. Indeed, the data collected principally originated from professionals active in Germany, not focusing on a particular industry. Therefore, future works could also explore how the studied capability should be in specific industries or other geographic areas. Furthermore, upcoming quantitative research projects could further investigate the reduction of GHG emissions by maintaining profitability in corporations, which would contribute to reviewing my findings. In addition, this work provides first indications to develop a capability addressing specific GHG emissions. Still, future research could investigate further which measures are appropriate for decreasing each type of GHG while sustaining the profitability of companies.

Last, when considering the practice implications of present research work, the progressive implementation of such a capability by companies – through its formalization – could lead to increasing the global demand for GHGs-reduced alternatives among corporations, resulting in

a systemic effect towards decoupling the economy from fossil-based products and services, hence going a step further towards solving the root causes of present climate change.

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8 Appendices

Appendix table 1[12]: VHB-JOURQUAL 3 Rank and Scimago Journal Rank of the literature used in my thesis

Literature	*Journal*	*VHB-JOUR-QUAL 3 Rank*	*Scimago Journal Rank*
Al-Qahtani, M., & Elgharbawy, A. (2020). The effect of board diversity on disclosure and management of greenhouse gas information: Evidence from the United Kingdom. *Journal of Enterprise Information Management*, *33*(6), 1557–1579. https://doi.org/10.1108/JEIM-08-2019-0247	*Journal of Enterprise Information Management*	C	H-INDEX: 82, Q2 from 2005 to 2021 and Q1 since 2022 in Management of Technology and Innovation
Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, *17*(1), 99–120. https://doi.org/10.1177/014920639101700108	*Journal of Management*	A	H-INDEX 280; Q1 since 1999 in Finance + in Strategy and Management
Ben-Amar, W., Chang, M., & McIlkenny, P. (2017). Board Gender Diversity and Corporate Response to Sustainability Initiatives: Evidence from the Carbon Disclosure Project. *Journal of Business Ethics*, *142*(2), 369–383. https://doi.org/10.1007/s10551-015-2759-1	*Journal of Business Ethics*	*B*	H-INDEX 253; Q1 since 1999 in Business and International Management +Business, Management and Accounting (miscellaneous)
Bowman, C., & Ambrosini, V. (2003). How the Resource-based and the Dynamic Capability Views of the Firm Inform Corporate-level Strategy. *British Journal of Management*, *14*(4), 289–303. https://doi.org/10.1111/j.1467-8551.2003.00380.x	*Journal of Management*	A	H-INDEX 280; Q1 since 1999 in Finance + in Strategy and Management
Cenci, S., Burato, M., Rei, M., & Zollo, M. (2023). The alignment of companies' sustainability behavior and emissions with global climate targets. *Nature Communications*, *14*(1), 7831. https://doi.org/10.1038/s41467-023-43116-2	*Nature Communications*	*No rank available*	*H-INDEX: 522; Q1 since 2011 in Biochemistry, Genetics and Molecular Biology (miscellaneous) + Chemistry (miscellaneous) + Physics and Astronomy (miscellaneous)*
Chevrollier, N., van Lieshout, J. W. F. C., Argyrou, A., & Amelink, J. (2024). Carbon emission reduction: Understanding the micro-foundations of dynamic capabilities in companies with a strategic orientation for sustainability performance. *Business Strategy and the Environment*, *33*(2), 968–984. https://doi.org/10.1002/bse.3513	*Business Strategy and the Environment*	*B*	H-INDEX 147; Q1 since 2001 in Business and International Management; Q1 since 2009 in Management, Monitoring, Policy and Law + in Strategy and Management
Demirel, P., & Kesidou, E. (2019). Sustainability-oriented capabilities for eco-innovation: Meeting the regulatory, technology, and market demands. *Business Strategy and the Environment*, *28*(5), 847–857. https://doi.org/10.1002/bse.2286	*Business Strategy and the Environment*	*B*	H-INDEX 147; Q1 since 2001 in Business and International Management; Q1 since 2009 in Management, Monitoring, Policy and Law + in Strategy and Management
Gaganis, C., Galariotis, E., Pasiouras, F., & Tasiou, M. (2023). Managerial ability and corporate greenhouse gas emissions. *Journal of Economic Behavior & Organization*, *212*, 438–453. https://doi.org/10.1016/j.jebo.2023.05.044	*Journal of Economic Behavior & Organization*	A	H-INDEX 136; Q1 since 2002 in Organizational Behavior and Human Resource Management + Q1 since 2015 in Economics and Econometrics

[12] Scientific articles on methodology are not listed in this table as this was deemed meaningless.

García-Sánchez, I.-M., Monteiro, S., Piñeiro-Chousa, J.-R., & Aibar-Guzmán, B. (2023). Climate change innovation: Does board gender diversity matter? *Journal of Innovation & Knowledge*, *8*(3), 100372. https://doi.org/10.1016/j.jik.2023.100372	*Journal of Innovation & Knowledge*	*No rank available*	H-INDEX 54; Q1 since 2019 in Business and International Management + Economics and Econometrics + Management of Technology and Innovation + Marketing +
Grant, R. M. (1991). The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation. *California Management Review*, *33*(3), 114–135. https://doi.org/10.2307/41166664	*California Management Review*	*B*	H-INDEX: 155; Q1 since 1999 in Strategy and Management
Grant, R. M. (1996). Prospering in Dynamically-Competitive Environments: Organizational Capability as Knowledge Integration. *Organization Science*, *7*(4), 375–387. https://doi.org/10.1287/orsc.7.4.375	*Organization Science*	A+	H-INDEX 281; Q1 since 1999 in Management of Technology and Innovation + Organizational Behavior and Human Resource Management + Strategy and Management
Haque, F., & Ntim, C. G. (2022). Do corporate sustainability initiatives improve corporate carbon performance? Evidence from European firms. *Business Strategy and the Environment*, *31*(7), 3318–3334. https://doi.org/10.1002/bse.3078	*Business Strategy and the Environment*	*B*	H-INDEX 147; Q1 since 2001 in Business and International Management; Q1 since 2009 in Management, Monitoring, Policy and Law + in Strategy and Management
Hart, S. L. (1995). A Natural-Resource-Based View of the Firm. *The Academy of Management Review*, *20*(4), 986–1014. https://doi.org/10.2307/258963	*Academy of Management Review*	A+	H-INDEX 306; Q1 since 1999 in Business, Management and Accounting (miscellaneous) + Management of Technology and Innovation + Strategy and Management
Hart, S. L., & Ahuja, G. (1996). Does It Pay to Be Green? An Empirical Examination of the Relationship Between Emission Reduction and Firm Performance. *Business Strategy and the Environment*, *5*(1), 30–37. https://doi.org/10.1002/(SICI)1099-0836(199603)5:1<30::AID-BSE38>3.0.CO;2-Q	*Business Strategy and the Environment*	*B*	H-INDEX 147; Q1 since 2001 in Business and International Management; Q1 since 2009 in Management, Monitoring, Policy and Law + in Strategy and Management
Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, *24*(10), 997–1010. https://doi.org/10.1002/smj.332	*Strategic Management Journal*	*A*	H-INDEX 333; Q1 since 1999 in Business and International Management + Strategy and Management
Huang, C., Gan, X., Wan, Y., Jin, L., Teng, J., & Li, Z. (2024). China contributed to low-carbon development: Carbon emission increased but carbon intensity decreased. *Frontiers in Ecology and Evolution*, *12*. https://doi.org/10.3389/fevo.2024.1338742	*Frontiers in Ecology and Evolution*	*No rank available*	*H-Index: 65; Q1 since 2019 inEcology, Evolution, Behavior and Systematics + Ecology*
Huang, J.-W., & Li, Y.-H. (2017). Green Innovation and Performance: The View of Organizational Capability and Social Reciprocity. *Journal of Business Ethics*, *145*(2), 309–324. https://doi.org/10.1007/s10551-015-2903-y	*Journal of Business Ethics*	*B*	H-INDEX 253; Q1 since 1999 in Business and International Management +Business, Management and Accounting (miscellaneous)
Kiemel, S., Schäfer, S. F., Dokur, Y. D., Vangeloglou, M., Ballheimer, L., Miehe, R., & Sauer, A. (2023). Current State and Best Practices on the Way to Zero Emission in the Manufacturing Industry: An Empirical Survey in the Germany-Austria-Switzerland Region. *Procedia CIRP*, *116*, 432–437. https://doi.org/10.1016/j.procir.2023.02.073	*Procedia CIRP*	*No rank available*	H-INDEX 103

Kouloukoui, D., Marinho, M. M. de O., Gomes, S. M. da S., Kiperstok, A., & Torres, E. A. (2019). Corporate climate risk management and the implementation of climate projects by the world's largest emitters. *Journal of Cleaner Production*, *238*, 117935. https://doi.org/10.1016/j.jclepro.2019.117935	*Journal of Cleaner Production*	*B*	H-INDEX 309; Q1 since 2006 in Environmental Science (miscellaneous) + Industrial and Manufacturing Engineering + Renewable Energy, Sustainability and the Environment + Strategy and Management
Lee, K.-H., & Min, B. (2015). Green R&D for eco-innovation and its impact on carbon emissions and firm performance. *Journal of Cleaner Production*, *108*, 534–542. https://doi.org/10.1016/j.jclepro.2015.05.114	*Journal of Cleaner Production*	*B*	H-INDEX 309; Q1 since 2006 in Environmental Science (miscellaneous) + Industrial and Manufacturing Engineering + Renewable Energy, Sustainability and the Environment + Strategy and Management
Lewandowski, S., & Ullrich, A. (2023). Measures to reduce corporate GHG emissions: A review-based taxonomy and survey-based cluster analysis of their application and perceived effectiveness. *Journal of Environmental Management*, *325*, 116437. https://doi.org/10.1016/j.jenvman.2022.116437	*Journal of Environmental Management*	B/C	H-INDEX 243; Q1 since 2005 in Management, Monitoring, Policy and Law
Li, J., Luo, X., & Feng, D. (2023). "Black box operation" in carbon reduction: Based on empirical evidence of carbon transfer by subsidiaries of Chinese enterprises. *Frontiers in Environmental Science*, *11*. https://doi.org/10.3389/fenvs.2023.1120022	*Frontiers in Environmental Science*	*No rank available*	H-INDEX 77; Q2 since 2023 but Q1 from 2017 to 2022 in Environmental Science
Lopes de Sousa Jabbour, A. B., Vazquez-Brust, D., Chiappetta Jabbour, C. J., & Andriani Ribeiro, D. (2020). The interplay between stakeholders, resources and capabilities in climate change strategy: Converting barriers into cooperation. *Business Strategy and the Environment*, *29*(3), 1362–1386. https://doi.org/10.1002/bse.2438	*Business Strategy and the Environment*	*B*	H-INDEX 147; Q1 since 2001 in Business and International Management; Q1 since 2009 in Management, Monitoring, Policy and Law + in Strategy and Management
Nuber, C., & Velte, P. (2021). Board gender diversity and carbon emissions: European evidence on curvilinear relationships and critical mass. *Business Strategy and the Environment*, *30*(4), 1958–1992. https://doi.org/10.1002/bse.2727	*Business Strategy and the Environment*	*B*	H-INDEX 147; Q1 since 2001 in Business and International Management; Q1 since 2009 in Management, Monitoring, Policy and Law + in Strategy and Management
Ortiz-Avram, D., Ovcharova, N., & Engelmann, A. (2024). Dynamic capabilities for sustainability: Toward a typology based on dimensions of sustainability-oriented innovation and stakeholder integration. *Business Strategy and the Environment*, *33*(4), 2969–3004. https://doi.org/10.1002/bse.3630	*Business Strategy and the Environment*	*B*	H-INDEX 147; Q1 since 2001 in Business and International Management; Q1 since 2009 in Management, Monitoring, Policy and Law + in Strategy and Management
Pinkse, J., Demirel, P., & Marino, A. (2024). Unlocking innovation for net zero: Constraints, enablers, and firm-level transition strategies. *Industry and Innovation*, *31*(1), 16–41. https://doi.org/10.1080/13662716.2023.2269112	*Industry and Innovation*	*B*	H-Index: 72; Q1 since 2018 in Business, Management and Accounting (miscellaneous) + Management of Technology and Innovation
Russo, M. V., & Fouts, P. A. (1997). A Resource-Based Perspective on Corporate Environmental Performance and Profitability. *The Academy of Management Journal*, *40*(3), 534–559. https://doi.org/10.2307/257052	*The Academy of Management Journal*	A+	H-INDEX 375; Q1 since 1999 in Business and International Management + Business, Management and Accounting (miscellaneous) + Management of

			Technology and Innovation + Strategy and Management
Shang, H., Chen, R., & Li, Z. (2020). Dynamic sustainability capabilities and corporate sustainability performance: The mediating effect of resource management capabilities. *Sustainable Development*, *28*(4), 595–612. https://doi.org/10.1002/sd.2011	*Sustainable Development*	C	H-INDEX 91; Q1 since 2012 in Development; Q1 since 2021 in Renewable Energy, Sustainability and the Environment
Sharma, S., & Vredenburg, H. (1998). Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal*, *19*(8), 729–753. https://doi.org/10.1002/(SICI)1097-0266(199808)19:8<729::AID-SMJ967>3.0.CO;2-4	*Strategic Management Journal*	*A*	H-INDEX 333; Q1 since 1999 in Business and International Management + Strategy and Management
Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*(7), 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z	*Strategic Management Journal*	*A*	H-INDEX 333; Q1 since 1999 in Business and International Management + Strategy and Management
Winter, S. G. (2003). Understanding dynamic capabilities. *Strategic Management Journal*, *24*(10), 991–995. https://doi.org/10.1002/smj.318	*Strategic Management Journal*	*A*	H-INDEX 333; Q1 since 1999 in Business and International Management + Strategy and Management
Yadav, R., Sharma, P., Hiremath, R. B., & Patil, A. A. (2024). Environmental responsibility and corporate governance: Assessing the impact of gender diversity on greenhouse gas (GHG) emissions in German listed companies. *Corporate Ownership and Control*, *21*(1), 158–167. https://doi.org/10.22495/cocv21i1art13	*Corporate Ownership and Control*	*C*	H-INDEX 26; 80% Q3 and 20% Q2 from 2004 to 2019 in Business, Management and Accounting (miscellaneous)
Yuan, B., & Cao, X. (2022). Do corporate social responsibility practices contribute to green innovation? The mediating role of green dynamic capability. *Technology in Society*, *68*, 101868. https://doi.org/10.1016/j.techsoc.2022.101868	*Technology in Society*	*No rank available*	H-Index: 88; Q1 from 2020 to 2023 in Business and International Management
Zhang, A., Tay, H. L., Alvi, M. F., Wang, J. X., & Gong, Y. (2023). Carbon neutrality drivers and implications for firm performance and supply chain management. *Business Strategy and the Environment*, *32*(4), 1966–1980. https://doi.org/10.1002/bse.3230	*Business Strategy and the Environment*	*B*	H-INDEX 147; Q1 since 2001 in Business and International Management; Q1 since 2009 in Management, Monitoring, Policy and Law + in Strategy and Management
Zhu, B., Xu, C., Wang, P., & Zhang, L. (2022). How does internal carbon pricing affect corporate environmental performance? *Journal of Business Research*, *145*, 65–77. https://doi.org/10.1016/j.jbusres.2022.02.071	*Journal of Business Research*	*B*	H-INDEX 265; Q1 since 2001 in Marketing

Appendix table 2: Most illustrative verbatims corresponding to each 1st-order rubric

1st-order rubrics	*Most illustrative verbatims*
The proposition is relevant. However, sustaining profitability can be conflicting.	I1:"the answer is, yes, it is relevant. But it's not the only relevant driver." I2: "So, I think it's a, it's not a could it's, it's a must" I4: "I do believe it's, it's really relevant to, yeah, formalize your capabilities and to I don't know if it's, if you would put it on the same thing, but, like institutionalize the capabilities." I6: "quite relevant because most companies see reducing their emissions, at least at the beginning, as something that they will do on the side, or that the sustainability team is going to do" I7: "I don't think they could. I think they must formalize that capability (...) And so, for me, formalization is absolutely key and at the same time, only formalization will help you to reduce, then your emissions." I8: "Yes, absolutely." I10: "I hope so. What can I say? I hope so. Yes, of course. We all hope that they can do that, that they can, you know, do something that, you know, stops the climate change, but still sustaining their profitability" I11: "yeah. I think this proposition is relevant. So, on a scale, I would say, it's medium or medium-high relevant" I2: "people can, they only have like 8 h per day, right? And if they spend 1 h on, on sustainability. Then 7 h are left from the day, and without sustainability, you would have 8 h for, for other topics. So,

	I, I understand that some people might see a conflict of interest, let's say, between profitability and sustainability." I5: "if they're actively investing into having like sustainability workshops within the company, and stuff, like influencing sustainable actions within the like into the projects teams, then, definitely, I would say, like, it's very, like, it could be, it can be a very powerful direction to move into. But of course, with all these things comes with a lot of costs. So, like I said, I, I think going back to the previous question, like, I don't think profitability wouldn't, would be a very, very rare case. ***Me: To sum it up, you think that it could help companies to stop contributing to climate change. But it will impact negatively, profitability, because sustaining it is not really possible as… that's your opinion, I mean, it's a to just to make things clear.*** I5: Yeah." I9: "Hmm, some can. It is very difficult for some companies in specific sectors to be able to do that. They might have to change line of business, to be able to… if they have this target, to reduce their greenhouse gases. Remember it is not all companies who have that wish."
Sustainability-in-its-core company makes sustainability a profitability driver by aligning and educating everyone within the company on sustainability	I2: "If you are, or want to be a sustainability in-its-core company, there are many things speaking for profitability in this regard as well. So, you would have like cost reduction opportunities that you can identify if you think about greenhouse gas reductions (...) Yeah, you can access new markets or simply stay in the markets you're in right. (...) So, you get better access to funding if you show that you are more sustainable and decarbonization is one lever to become more sustainable. Right? "

strategy, enabling to reduce costs, maintain customer contracts, and generate new revenues	I2: "But the, the other important part is that you don't only focus on the dedicated resources. But you make sure that everyone is aligned on your strategic agenda in becoming more sustainable as a company, and if you do it like that, I think, it becomes more of a profitability driver than being like the contrary of profitability." I5: "some companies that put all their products into sustainability initiatives, right? And we've seen how much they've been along, how much they've popularized, how much they're being respected for their active activity (...) And you know, those type of brands (...) people actively choose them because of their initiatives" I1: "It can also be products for new target clients. And therefore, these products can also contribute to increasing revenues." I7: "Another big part, when it comes to greenhouse gas emissions reductions is part of maybe a broader topic, which is the customer requirements (...) and if you don't deliver on them as a company, then you might not get the contract, or you might not get future contracts might be excluding from bidding processes (...) because if they don't deliver on ESG, if they don't deliver on sustainability, then it's gonna be very difficult to remain profitable, because they'll just lose contracts." I8: "And if you would now… and this is probably a key question: would you calculate in your business case opportunity costs? What do I mean? For example, if a certain big customer requires science-based targets and I don't have them. So, I don't invest, and I don't follow up on my, my science-based targets, would I lose that… the customer? And the profitability, and the turnover that I lose for that customer, do I calculate that into my business case? Yes or no, because if I do, the business case becomes better."

	I2: "So, it's, it's very important that everyone is part of the journey. Everyone understands that you put sustainability in the core of the company, and that sustainability as a, is a, like strategic cornerstone for becoming more profitable. Right? If you do that, then everyone in the company must build certain capabilities when it comes to, to sustainability. They need to understand, for instance, the basics of decarbonization, and why your company acts more sustainable than others. Right? So, if you don't do that. Then you have one dedicated sustainability department. But the salesguys or the salesgirls don't know what actually happens in the sustainability department right, and they are not able to sell it to the customers. So, you would basically do all the work. But you don't really earn the fruits of being more sustainable. So that's why I think, from an organizational point of view, it's important to have a few dedicated resources for sustainability. But it's even more important, to spread it out in the entire company, and to, to educate each and every one, and to take each and every one to the journey."
Shift company's DNA towards GHGs reduction through decentralized capability and cross-functional sustainability team	I11: "And I think this is really, that needs to become the DNA of your company while you're working at that you need to take care of it, becoming a more climate neutral company. And with, with DNA, I really mean the board of management needs to know about it, the, the top management below the the board of management needs to know about it. Your employees need to know about it, especially the employees that are talking to customers and that are talking to… on the procurement side to your suppliers." I9: "You could say that what we're seeing this… these years is actually a transition for many years, unless especially in the, in, in the most… those companies in the forefront changing their ways of working with the greenhouse gases. It has very often only been the

	sustainability department who has worked with this, potentially also the people in the production but not very often (...) and what we see these years is actually a transition from the sustainability department to the financial department. And this does make a big difference." I1: "the ideal setup is that these capabilities are not concentrated in one single function or in one single location, but that they are, they are distributed within, you know, throughout the company so that each function in the company develops sustainability-related capabilities, or let's say capabilities that contribute to stop climate change. I mean, at the end of the day, we're talking about the same thing more or less. And, and that is both from, yeah, the point of view of tools, so hard physical tools and the point of view of, yeah, the skills of, of your employees" I2: "it's very important that you roll out your capabilities over your entire organization, because it's important that everybody understands the importance of, of sustainability" ***Me: "My feeling is that your, your, well, what you answer me is that this capability should rather be decentralized, or broad or very… about the whole company, and not clustered in, in some to only the, the greenhouse gas roadmap, for instance, is that right?"*** I8: "Yeah, yes, it's… for… for me it is right." I12: "one of the things that I very much promote is cross functional teams within the company and have them work on approaches for reducing energy consumption and then also, identifying opportunities for using renewables" I3: "And, and maybe this is the most important shift which we see

	from the organizational perspective, that sustainability and carbon management is moving from a reporting, driven perspective which is driven by the sustainability department to an really strategic and operational perspective where the operational departments play a role. This is operations, so how to run the, the plants. But very, very importantly, the procurement."
Internal and external stakeholder management is key to success	I11: "So, I think this was missing in my first answer, and now I think it, I would add, I would add that… that, and really the involvement of all stakeholders is really key to success." I12: "stakeholders, they need the feedback and, and, and stakeholders again… It's not just shareholders, it's, it's your employees, your, your suppliers, your, your I don't know if… is a customer, a stakeholder, I think it kind of is. So, you, you need to be as transparent as possible without giving away your secrets, obviously." I10: "NGOs, you know, that can be very relevant in, in this in the setting. But you have to talk to them as well" I7: "both internally and externally, because on the internal side you need to get your stakeholders involved, and you need to get your stakeholders excited to support you and externally, what you need to do is obviously use any chance that you get any good chance that you get to promote sustainability externally, because that again is something that then has a positive impact internally something where you get more support from the board of management if they can go out and say: “Look at us, we're doing really great.”"
Knowledge and formalized GHG emissions reduction	I4: "I think one of the main problems is that you know we always think of knowledge such as patterns and all that, as you know, companies, companies… how do you say… like that they own it,

capability should be shared within the company and with other stakeholders: make them open source and learn from others	but that also is kind of a problem that you know, knowledge is not shareable" I4: "formalize the capabilities and sharing it inside a company or, and, or even better, shared with other companies, because, yeah, there will be no, no company at all that will be profitable, in my opinion, if, if we, if we live on a, on a, on, a, a planet struggling with extreme weathers and the different effects of climate change. So, therefore, I think, it is really important to formalize them, institutionalize them, and yeah, make them in the best case, open source to, to tackle climate change." I12: "Then there should be an effort made to share breakthroughs so that people, other companies can benefit like you can. And the reason I say that it's, it's moving away from the classical example because the clock is ticking and we all have to come together, work together to make sure that we do reduce the temperature that's out there so that planet Earth can survive this."
Revisit products from their design to make them super interesting to customers but also sustainable	I8: "The big problem that we need to solve is that usually a company tries to make a product simply more sustainable, but not to create a better product. So, what… we need to start very early in the process, which means in product design and create products that are super interesting to customers, but also sustainable."
Supply-chain management is a crucial reduction lever (impacts Scope 3, typically 60-90% of a	I3: "All the rest are deep emissions in a deeper supply chain or emissions due to direct emissions of the suppliers, and to get rid of them" I11: "scope 3 emissions here, it's, it's getting really complex, because you have to, on the one side, look up your, your upstream value chain and what are your levers? Yeah, you can maybe talk, or

company's emissions)	maybe you write in your contracts with your suppliers that they need to reduce their carbon footprint, and if not, you will end the cooperation with them" I7: "When you look at GHG emissions the majority of GHG emissions usually don't occur within the company, but in your supply chain. From my experience, and from what I've seen is roughly 85 to 90% is usually scope three, so outside of your direct control, and that is obviously significantly more, more difficult to reduce." I8: "And these resources for the products bought in are going into the carbon emissions account of the company. So, scope 3 can be something between obviously depending on the business model between... I don't know 60 to, to even 90% of the overall greenhouse gas emissions of a company."
Regulations force companies to reduce their GHG emissions, particularly in the EU	I6: "You will probably emit some kind of greenhouse gases. So, I think what you can do is to reduce them, which so… many companies also do or have to do also now with regulations coming up" I9: "And then, again, it is only some companies who have this wish to, to change their greenhouse gas emissions. Sometimes, and that's also, what we see now, especially in EU, that wish may not be of any purpose, because now the EU will provide at least the large legal entities with that wish, simply because of that they will have to make a plan… how to reduce their emissions" I10: "I mean in Europe, you have, like the EU taxonomy, and then you have the, the CSRD. So, you have a lot of regulation on their way."

Both absolute and relative GHG emissions should be reduced and measured consistently to obtain comparable quantitative and qualitative KPIs	I6: "Generally, I think the absolute greenhouse gas emissions should always still be the number one KPI to look at, because of course, one can also calculate the… the relative emissions, yeah, if the company grows it's probably good… a good KPI to look at. But then we will not solve the problem of climate change" I7: "But at the end of the day the most important fact is always absolute emissions and absolute emissions reduction. Everything else is good and is a good progress nonetheless" I3: "nowadays, you don't have to report only, you have to report and check emissions over time and disclose that hopefully emissions go down, in absolute way, not only in a in a relative way." I4: "And in general companies should, yeah, should really have also, like absolute targets that they want to hit as a KPIs, and not only like relative to, for example, you know, have a certain amount of emissions per employee, or something like that." I12: "So, people were aware of how they were progressing and they would try to make sure there was a continual improvement. If something went wrong, then they wanted to understand why and then they would make the fix and then continue to track. You know, one, one thing, that they could do is they're going through this transition… is to be able to say, to track their actual greenhouse emissions or estimated emissions from whatever they're doing and to show and to keep reporting that as they progress and those are, they're a gazillion different measurements." I3: "But in practice we find that data is and data quality is not sufficient for the moment to allow this kind of indicator to be used, and this is often a, a, rather challenge, that relevant staff overestimating the quality of data and KPIs which are available out

	there because they are not complete, they are not comparable." I6: "most companies calculate the emissions, with the Greenhouse Gas Protocol, right, and then they… it's comparable to other companies, and then you can see in the different categories, where is the hot spot?" I3: "Yeah, it, it depends a bit on what do you need the KPIs for? If you need it for procurement, decision from supplier A or from supplier B? Then maybe a qualitative indicator might be sufficient (...) And this means that this performance indicator which you use for the procurement decision somehow need to be linked to the accounting system, and then, qualitative indicator is not sufficient. So, you need to have a quantitative performance indicator which is clearly linked to emissions"
From management board's remuneration to climate-friendly travel policies, implement GHGs reduction business conduct/governance	I11: "to become a sustainable company or a less greenhouse gas emitting company (...) And this is also, connected to the remuneration of the (...) board of management. So, yeah. So, on the governance side there are so, many options" I10: "using Greenhouse Gas Protocol (...) where do companies use it, for example, remuneration, remuneration of the board, of course, and then of… the, the climate aspect was on top." I12: "But it's very important that the senior managers shows and demonstrates consistently its interest in reducing greenhouse gas emissions." I6: "However, there are some emission… emissions that are maybe lower, but maybe they are easier to reach like low-hanging fruits. Or maybe they have a specific, like a, let's say, more emotional or like, easier to understand potential for, for these… such as like

	travel emissions. And then you can… for example, in our company we have a climate-friendly travel policy" I11: "So, in my opinion, building up the capability to reduce climate change impacts can, on the one hand, be like that you have the, this kind of business conduct (...) and also, like awareness trainings to your employees that they, they know what does it mean having a carbon footprint and what does it mean to reduce this carbon footprint"
Operationalize GHG emissions reduction: build transparency and adopt systematic, holistic management and investment approaches	I8: "operationalize the decarbonization. So, it needs to be… management needs to be capable of managing this, just as, for example, cash and profitability, so, habits and other financial KPIs. So, the man… the man… the management, needs to be able to make a decision where to allocate its capital and its investments best. And in order to do that, like, actually, all investments should have these two perspectives – financial perspective and also, greenhouse gas emissions – so, by the way, also investments that are not related directly to your greenhouse gas reduction roadmap should be analyzed in regards to their carbon, carbon potential." I7: "And also, obviously, if you have it formalized, you have a budget. You have a clear indication of what expenses you have, and that will help you to potentially have a positive impact on your profitability." I12: "Okay, basically, what you need to do is using these measurement systems to basically identify your progress and where possible monetize what your process is. Put it into a priority order" I3: "so formalizing capabilities, yeah, it's, it's a question where you focus the capabilities where you have the best, yeah, return on investment on the capabilities concerning climate change. So, does

	it really make sense to invest very, very big amount of money for an emission source which only plays a minor role?"
Formalizing corporate GHG emissions reduction capability will incur costs/company-wide investment	I2: "You also, if you think about resources and capabilities, you need to invest in, in both actually, in resources, you need to offer new positions, but you also need to invest in capability building of these positions (...), but also totally different groups in your company (...) such as HR or procurement" I8: "Taking the examples in plastics today, virgin plastic out of fossil and made of fossil raw materials, so oil, are way cheaper than recycled or recycled plastics or plastics made of renewable materials" I6: "But I think to create capabilities… yeah, it's a good question how to create them without increasing the income, I guess, I would see it rather as an investment that will pay off" I1: "how to pay for capabilities formalization without requiring an increase in income. Yeah? Well. Well, I mean you can just pay for it. And you, if income doesn't increase, then you will have less profit (...) it's not necessarily a bad thing, you know, a company can, yeah, I mean, of course, companies are driven by profits. But let's say, I think, it's high time that companies also look at people and planet not only profit, you know the, the 3 P" I3: "So, at some point of time, you need to accept that you have to invest money. And you are not sure whether it will pay off. Because it's dependent on your future situation, whether there will be the cost driver by emission certificates, whether there will be a market, whether competitors will gain momentum due to a better efficiency."

Scope 2 emissions: increasing energy efficiency and renewables can save costs	I11: "reducing greenhouse gas emissions has two different sites. The one side is really reducing them by having energy efficiency measures" I11: "scope 1 should be priority two. But scope 2 should be priority one. Because here you have the, the, the best possibilities at the moment, in my opinion. So, on the one hand, you can change your energy provider" I8: "what a company can do is to invest already early in renewable energies itself (…) to reduce the energy costs in the long term and in some of these cases that might even result in in lower cost today." I8: "looking at scope 1 and 2, it's obviously direct and indirect emissions out of our production facilities and how we commute, etc., etc. And these can be measures, for example, like implementing a photovoltaic system. An industrial heat pump. These are technological changes in the company. A lot of them already are… have a positive payoff."
How to prioritize GHGs reduction measures? Start with low-hanging fruit measures that make you instantly more profitable to increase motivation and budget for working on the hot spots as soon as possible. Combine	I11: "low-hanging fruits should be the, the first steps, of course because, having, like, small success or small moments of success might increase motivation to do more… when you turn to the most difficult, then you might be frustrated in the beginning." I8: "if you start with the, the measures that are making you instantly more profitable, you can use the time when the other technologies are becoming less expensive to then do them at the later stage, when they make you probably even more profitable or less less profitable" I3: "So, you have easily 5 to 6 to 7 years before you have started a not low-hanging fruit project. This is why you should start right

this approach with double materiality assessment (CSRD).	away identifying such kind of projects, getting, making an introduction to the respective suppliers, triggering the respective measures right away" I7: "I think it's a combination. So, low-hanging fruits are always the first thing that you should look at. But low-hanging fruits aren't necessarily the ones with the biggest impact." I10: "Low hanging-fruits are always to be preferred, because they they're easy to grab, so, to say (...) but of course this is only a step, and then we have to move on." I1: "this is why we have the so-called materiality assessment under the CSRD (...) now it's becoming, it has become, of course, obligatory. So, what you have to do is (...) identify (...) sustainability related topics that are material to your company, that are material to your industry, that are material in a let's say, you know, with a with a double materiality approach (...) in terms of the impacts that you produce, that you generate on your, on your stakeholders"
Skills profiles in the GHGs reduction capability depend on where emissions come from and company's field/size/business model (product vs. service)	I2: "When it comes to skills and profiles that you need for the capabilities, I think it's important to take into consideration the business model of your company. If it's like a product facing company and you produce and manufacture products, then it's important, for instance, to have people on board who know about, let's say, life cycle assessment (...) If you are a service company, obviously a, a life cycle assessment specialist doesn't have a big impact right then, and it would be other, other skill profiles." I7: "who should be part of this capability? Again, that depends on the size of the company"

	I3: "they are building up competencies in the R&D or product department always depending on the concrete business model and the relevance of where emissions come from" I4: "would really kind of depends on the field you're working in. So, I think there's not a general answer for that, as far as I understood, like the capability, yeah, definition (...) the criteria are gonna be quite different. If you, for example, work in a IT company, or if you work in a, you know, production facility for steel."
Innovate to reduce GHG emissions: think outside the box, apply new concepts, turn it into a game	I6: "I guess thinking outside the box and not thinking in just a very strict, a general business way can be very important, too" I12: "What, what you, if you can do it, it's not real easy, but turn it into a game so, that you have these team members really working together to figure out how they can reduce the cost or improve the efficiency" I9: "there will need to be a new logic for companies… for the foundation of a company and that is that the primary focus for a company is to not harm the outside world, including emissions." I4: "I don't know if you if you know that concept, but it's basically the merit order (...) really interesting concept to use for that" I4: "Usually use it on the… on this, on the, on the market for, for electricity, where you use you where you start produce, where you start, basically first taking the electricity from the cheapest producers and the basically set market prices set by the lowest… the merit order." I6: "for social insurance or securities in Germany (...) for example, the employer always pays 50% of the cost. So, we said, okay, why

	does this not apply to climate, to the climate as well? Right? So why don't we pay 50 of the of the CO2 footprint of our employees?"

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September 2, 2024

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