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EXPLORING FUTURES IMAGES OF DEGROWTH BUSINESS MODELS

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ABSTRACT

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Humanity is currently facing major environmental and social crises, from planetary overshoot, climate change, and environmental degradation to growing social injustices and wealth inequalities. While the mainstream green growth discourse advocates for technological innovation and market-based solutions to decouple economic growth from its environmental impacts, post-growth discourses question the compatibility of continued economic growth with environmental and social sustainability and propose a move away from growth-based economies. The more radical of the post-growth discourses, degrowth, advocates for a planned and democratic reduction in production and consumption and an overall reorientation of the society and economy towards socio-ecological well-being. In practice, this would require a fundamental transition of our society away from consumerism and capital accumulation towards principles of sufficiency, community, and ecological sustainability.

While degrowth has gained increased interest within academia and activist spheres, the discussions are largely focused on the macroeconomic implications and policies, with only a few articles examining the micro-level implications and operationalization of degrowth within business. Hence, the purpose of this thesis was to enhance our understanding of degrowth business models by exploring what they may look like if adopted in the future as well as providing insight into the drivers and barriers for implementing degrowth business models. In doing this, the thesis sought to address the main research question 'what futures images exist of degrowth business models?'. By adopting a futures study approach and exploring different imaginary futures for degrowth business models, the thesis sought to go beyond the criticisms of the current system to explore the opinions, hopes, and fears associated with the development of degrowth business models. Utilizing a futures images approach further provided room for creativity and flexibility in imagining future degrowth business models not restricted by current socio-economic structures and trends, allowing for insights into what a utopian and desirable future for degrowth businesses may be.

For the study, qualitative interviews were conducted with 13 individuals focusing on identifying drivers and barriers to the implementation of degrowth in business, investigating understandings of degrowth business models, and exploring the hopes and fears about the future development of degrowth business models. The transcribed interviews were thematically analyzed and subsequently used to conduct a horizon scanning outlining the drivers and barriers for adopting degrowth business models based on the PESTLE dimensions and to construct four futures images.

The thesis finds that there are supportive trends and signals that may support the adoption of degrowth in business, such as changing social values, increased environmental concerns, and increased interest in post-growth discourses. Yet, capitalist structures, systems, and path dependencies represent significant barriers preventing the adoption of degrowth practices. Furthermore, the thesis presents two utopian and two dystopian futures images of degrowth business models. The two utopian futures images are characterized by non-business organizations in a non-monetary economy and not-for-profit businesses in a post-capitalist economy. The two dystopian futures images represent futures where degrowth is corrupted within a capitalist economy or achieved as a form of degrowth dictatorship.

The thesis offers contributions to the degrowth literature in several ways. Firstly, the findings demonstrate significant overlap in the descriptions of degrowth business models provided in the interviews and in the existing literature on degrowth business models, which helps validate the existing literature's conceptualizations of degrowth businesses. The thesis also offers further discussions on degrowth businesses by proposing a need to embrace temporality, aligning any company growth with socio-ecological value and limits, and proposals on reducing global trade. The thesis further identified important areas of tensions associated with the role of profit in a degrowth business, the type of economy needed for degrowth, and even in how to approach the discussion on and concept of degrowth businesses. Lastly, the thesis highlights the need for more industry- and location-specific studies on the operationalization of degrowth to provide more prescriptive findings.

Keywords: degrowth, degrowth business model, sustainable business models, sustainability, futures images

The originality of this thesis has been checked using the Turnitin Originality Check service.

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1. INTRODUCTION

1.1. Research background

In 2009, environmental scientist Johan Rockström and his colleagues introduced the highly influential planetary boundaries framework (see Rockström et al., 2009). Identifying nine biophysical processes influencing the stability of the Earth's systems, the researchers tried to identify quantifiable boundaries as to how much human activity could influence these processes before reaching dangerous tipping points. Transgressing one or more of these boundaries risks causing detrimental changes in vital planetary systems, resulting in catastrophic consequences (Rockström et al., 2009). In 2015, it was estimated that human activity has resulted in four of these critical boundaries being crossed, contributing to climate change, accelerated species extinction, and environmental degradation (European Commission, 2015). In 2022, it was suggested that two more boundaries had been surpassed - the planetary boundaries for freshwater and novel entities (e.g., plastics and chemical pollution) (see Persson et al., 2022; Wang-Erlandsson et al., 2022). This planetary overshoot is becoming increasingly evident, significantly impacting both human and non-human life. In 2021, the Secretary-General of the United Nations, António Guterres, commented on the worsening climate crisis by describing it as a “code red for humanity” (United Nations, 2021, para. 5).

The need to transition to an environmentally friendly and socially just society that respects the planetary boundaries has become painfully clear. However, how to live within the Earth's limits while ensuring a thriving future for humanity remains debated. The Paris Climate Agreement, the United Nations' Sustainable Development Goals (SDGs), and a significant majority of mainstream sustainability policies and initiatives focus on the idea of ‘green’ or ‘sustainable growth’ (Sandberg et al., 2019). This is described by the OECD (2011) as “fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies” (p. 9). It posits that continued economic growth is needed to drive progress and will support the technological innovations and developments necessary to ensure sustainability (Sandberg et al., 2019). Technological innovations and investments in renewable materials and energy sources will effectively decouple economic growth from carbon emissions and environmental damage, hence contributing to mitigating climate change (Hickel & Kallis, 2020; Lorek & Spangenberg, 2014).

However, some scientists, academics, and activists have long questioned the compatibility of infinite economic growth with environmental preservation and social justice

(see e.g., Meadows et al., 1972). The post-growth research agenda argues that the current organization of economic activity and its emphasis on continued growth are fundamentally incompatible with the Earth's biophysical limits (Akbulut et al., 2019; Hickel et al., 2021). They argue that meeting global environmental objectives, such as limiting global warming to below 2 °C, will be nearly impossible if continuing with the current growth discourse (Antal & Van Den Bergh, 2016). Authors such as Hickel (2019), Naidoo and Fisher (2020), and Wiedmann et al. (2020) all propose a need to rethink the SDGs as they find economic growth targets (SDG 8) to inherently contradict other SDGs, such as those related to sustainable consumption (SDG 12) and mitigating climate change (SDG 13). Hence, the post-growth research agenda proposes a move away from the growth paradigm and explores alternative ways of organizing our societies and economies to better accommodate environmental and social well-being (Akbulut et al., 2019). In 2018, over 240 scientists and researchers signed a letter calling on the European Union and its member states to focus on well-being and equality over economic performance indicators and to explore post-growth futures (Research and Degrowth, n.d.). Furthermore, over 1,100 experts from across the world signed a letter asking for such policies following the COVID-19 pandemic (Degrowth.info, 2020). Post-growth discourses were further acknowledged in recent reports by the Intergovernmental Panel on Climate Change (IPCC) (see IPCC, 2022), suggesting an increased interest in their potential for environmental preservation.

Degrowth is one of the streams within post-growth that has received increased attention, particularly following heightened concerns about climate change (Akbulut et al., 2019). Degrowth is a social and economic movement that advocates for “an equitable downscaling of production and consumption that increases human well-being and enhances ecological conditions” (Schneider et al., 2010, p. 511). Proponents of degrowth argue that pursuing infinite economic growth is environmentally damaging, contributes to social inequalities, and will ultimately reduce our well-being. In other words, there are social and environmental limits to economic growth, as evident by the current climate crisis. (Kallis et al., 2020) Society must transition from relying on wealth accumulation and economic growth to a society focused on socio-ecological well-being. While the objective of degrowth is not necessarily to decrease or restrict gross domestic product (GDP) (a measure of economic growth), degrowth strategies – such as reducing resource use and redistributing wealth - are likely to slow down or even cause negative economic growth in wealthier countries. (Hickel, 2021) This strongly opposes the green growth narrative and would require a fundamental economic, societal, political, and cultural shift (Banerjee et al., 2021).

While degrowth has become a vibrant multidisciplinary field, current research on the micro-level implications and operationalizations of degrowth is limited. Over the last two decades, an increasing number of peer-reviewed articles, special issues, events, conferences, and even study programs have focused on degrowth (Weiss & Cattaneo, 2017). Degrowth has contributed to discussions in various fields, including urban planning (see Xue & Kębłowski, 2022), health care (see Borowy & Aillon, 2017), and even crime prevention (see Ruggiero, 2022). Yet, the degrowth literature has primarily focused on its macroeconomic implications and policies, resulting in a call for more micro-level explorations (Banerjee et al., 2021; Khmara & Kronenberg, 2018). Given degrowth's focus on reorienting consumption and production towards socio-ecological well-being and sustainability, it inherently implies a significant shift in business activity. Hence, part of the discussion on degrowth should logically focus on its implication on and operationalization within business. Nevertheless, the current research on degrowth businesses is limited. Only a few papers specifically seek to describe or provide criteria for business models aligned with degrowth (see Hankammer et al., 2021; Khmara & Kronenberg, 2018; Nesterova, 2020). Exploring degrowth businesses and business models is needed to enhance our understanding of degrowth and how it will affect business elements such as product offerings, production practices, supply chains, corporate governance, employment, and more. It is further a timely endeavor as the term degrowth appears to be entering the vocabulary of corporate sustainability (see e.g., Paton, 2022; Roulet & Bothello, 2020; Webb, 2022a; Webb, 2022b), which creates a need for systematic examinations of degrowth's impact on business and what a degrowth business model actually means.

However, it is important to note that degrowth business models may represent a somewhat contested research topic and present some fundamental tensions. As a critique of the economic growth paradigm and proposal for a deliberate economic contraction, degrowth is viewed as a rather radical and anti-capitalist approach (Akbulut et al., 2019; Hickel, 2020). In contrast, a business model is a social construct or idea developed in a capitalist society to communicate how companies create mainly economic value and achieve competitive advantages, which are key performance measures for a capitalist firm. Fundamental tensions may, therefore, exist in using the concept of business models to explore anti-capitalist ideas such as degrowth, as its application makes an inherent assumption that the two concepts are compatible. The challenge of using capitalist concepts to discuss degrowth is also discussed in the book «Degrowth & Strategy: how to bring about social-ecological transformation.» In the introductory chapter, Schulken et al. (2022) highlight the need to discuss strategy within the degrowth movement. According to the authors, “concerted actions and coordination would help

amplify the efforts for social-ecological transformation and create more powerful ways to act collectively” (Schulken et al., 2022, p. 13). However, the authors emphasize the need for a careful application of strategy - a concept developed in military and corporate settings - to avoid reproducing ideas and structures the movement advocates against. Similarly, this thesis proposes that exploring degrowth business models can provide valuable contributions to the degrowth literature by facilitating a deeper conversation about the micro-level implementation and impact of degrowth, as well as helping identify organizational practices and activities supportive of a degrowth transition. Yet, the thesis also acknowledges that the exploration must be carefully managed and allow for flexibility and potential for rethinking the idea of business models in order to avoid being locked into and simply reproducing current modes and methods of production.

1.2. Research objective and questions

The thesis provides an exploration of degrowth by examining what degrowth business models may look like if adopted in the future. While exploring potential futures for degrowth business models represents a challenging task, it offers a unique opportunity to advance the theoretical foundations of degrowth and its implementation. To this end, the thesis focuses on constructing and discussing futures images of degrowth business models. Futures images, also known as images of the future, refer to a technique utilized in future studies that illustrates a phenomenon's different imaginary future states (Jokinen et al., 2022). Futures images play an important role in supporting social change and guiding action for the future (Mäkelä et al., 2020). In the context of degrowth, futures images allow the discussion and exploration of degrowth to move beyond the criticisms of the capitalist system to facilitate discussions and descriptions of a life beyond capitalism. They can help structure and facilitate more-nuanced conversations on desirable and undesirable futures, help guide decision-making for the future, and, importantly, facilitate support and understanding by creating compelling and desirable images of the future (Beers et al., 2010; Mäkelä et al., 2020). By examining futures images of degrowth business models, the purpose of this thesis is to build upon the existing literature and enhance our understanding of degrowth business models by providing insights into its key features, potential challenges and limitations, as well as discussing the drivers and barriers for implementing degrowth business models moving forward. By focusing on what degrowth business models may look like in the future, the thesis offers a high level of flexibility in conceptualizing them as the exploration is not restricted by the current socio-economic context and structures. In other words, adopting a futures perspective allows for the potential of

significant changes that may enable or constrain degrowth. It, therefore, provides freedom and opportunity for creativity and diversity in discussing degrowth business models. Based on this, the thesis' main research question is:

What different futures images exist of degrowth business models?

In answering the main research question, the thesis also addresses the following two sub-research questions:

- 1) *What are the potential drivers and barriers for implementing degrowth business models moving forward?*
- 2) *What similarities and differences exist between the futures images of degrowth business models, and how does that contribute to our understanding of degrowth businesses?*

Constructing futures images requires the collection and analysis of opinions, thoughts, hopes, and fears about what a degrowth business model may look like in the future. This has been done by conducting interviews with 13 individuals familiar with degrowth and discussing their thoughts on degrowth business models and their implementation in the future. The interviews also provided insights for the first sub-research question by identifying potential drivers and barriers for degrowth business models by identifying trends, signals, and changes that may enable or constrain the adaptation of degrowth in business. The first sub-research questions also provided context for the futures images constructed in the thesis and facilitated a discussion on the operating environments of degrowth business models. Lastly, addressing the second sub-research question focused more on building on the current literature on degrowth business models to examine the implications and insights provided by the futures images – particularly their similarities and difference - and how they enhance our understanding of degrowth business models.

In doing this, the thesis seeks to contribute to the literature in various ways. Firstly, it should be noted that while a few articles have been identified linking futures studies to degrowth or alternative growth discourses (see e.g., Fitzpatrick et al., 2022; Köves et al., 2021; Svenfelt et al., 2019), no papers have been identified connecting futures studies or futures images with degrowth business models. Hence, the thesis opens up a new area of exploration that can provide insights into the more desirable and less desirable futures images of degrowth business models, which can provide insight into key elements of a degrowth business model and help

navigate decision-making towards the development of favorable futures. In doing this, the thesis may also offer some relevant insights into the literature on sustainable business models, allowing exploration of sustainable business models outside of the green growth discourse and offering insights for practitioners interested in degrowth.

1.3. Thesis structure

The thesis is organized into five overarching chapters. The introduction chapter has provided insights into the thesis topic, research questions, and objectives. Chapter 2 provides a literature review of the degrowth discourse, including presenting the issues with pursuing infinite economic growth, outlining the different discourses for a sustainable economy, and examining the history, meaning, and policy proposals of degrowth. Note that the thesis does not seek to contribute to the debate about economic growth or to establish the validity or feasibility of degrowth. Hence, the chapter focuses on presenting the arguments and policies of degrowth rather than engaging in a more profound debate. Chapter 2 also assesses to what extent the current business model literature addresses the challenges highlighted in the degrowth literature and examines current conceptualizations of degrowth business models. Chapter 3 presents the research methodology, including explaining the thesis' research philosophy, discussing the value of constructing futures images, and outlining the data collection and analysis process. Chapter 4 presents the thesis' findings. It starts by presenting the results of a conducted horizon scanning – i.e., analysis of the trends, signals, and changes that may influence the adoption of degrowth in business – before outlining the four constructed futures images. Finally, Chapter 5 discusses the theoretical and practical contributions of the thesis as well as its limitations and suggestions for future research.

2. CONCEPTUALIZING DEGROWTH BUSINESS MODELS

This chapter provides a literature review of the key concepts and arguments associated with degrowth and degrowth business models. Section 2.1. starts by outlining the arguments against continued economic growth and the capitalist system. Building on this, section 2.2. describes the key discourses and proposals for a more sustainable economy, primarily green growth, post-growth, and degrowth. Section 2.3. then provides an in-depth exploration of degrowth, discussing its meaning, arguments, objectives, and policy proposals. Lastly, section 2.4. focuses on conceptualizing degrowth business models. The section reviews relevant literature on sustainable and alternative business models to assess the extent to which the existing business model literature addresses the objectives of degrowth. It then reviews key articles exploring degrowth business models and frameworks before reflecting on the overall literature review findings.

2.1. The challenge of infinite growth

Most modern world economies follow some form of capitalism, a system characterized by privatization, competition, free markets, and capital accumulation (Hickel, 2020; Jahan & Mahmud, 2015). A central element of the capitalist system is the need for continuous expansion or growth (Joffe, 2011; Hickel, 2020). This is commonly measured as an increase in GDP, i.e., “the monetary value of all final goods and services produced within a country or region in a specific time period” (Roser, 2013, para. 2). Historically, the concept of economic growth and growth-based economies is relatively new. Before the industrial revolution, there was little to no economic growth, with most occurring due to population increases (Roser, 2013; Schmelzer, 2015). However, as industrialization allowed for significantly increased productivity, the twentieth century saw exceptional rates of economic growth (Roser, 2013). By the 1950s, economic growth had become a dominant political objective on both national and international levels (Schmelzer, 2015). There developed an implicit assumption that economic growth provides better outcomes for our societies, and thus countries should pursue economic growth to support their citizens (Hickel, 2020). Economic growth is now positioned as essential to improving living standards, creating employment, reducing inequalities, and eradicating poverty (Hickel, 2020; Murphy, 2022). Hence, economic growth has become more than just a quantitative measure of goods and services but also a paradigm and ideology that influences our cultural practices and political processes (Hickel, 2020; Kallis et al., 2018; Schmelzer, 2015). While economic growth has undoubtedly contributed to the advancement of modern

society, it has nevertheless had unprecedented and devastating impacts on human and non-human life, leading some to conclude that its continuation may not be possible or desirable (Schmelzer, 2015). The key arguments presented against continued economic growth can be summarized as follows:

1. Infinite economic growth is not possible with a finite supply of resources. Current economic growth objectives mean that the economy grows at a compound rate – i.e., the growth is exponential rather than linear (Kallis et al., 2020). This means that pursuing an annual growth rate of 3% - as proposed by the SDGs (Wiedmann et al., 2020) – would mean that every 24 years, the economy would double in size (Kallis et al., 2020). This raises the question of how to continue this growth trajectory in the long term when it is dependent on a finite supply of energy and resources (Hickel, 2020). As stated by Murphy (2022), “a finite world of finite resources will not support indefinite growth in the extraction of those resources” (p. 844). Extracting non-renewable resources can naturally not continue in perpetuity. However, using renewable resources also has limits due to replenishment rates and their use often being connected with non-renewable elements, such as the materials needed for solar panels (Murphy, 2022). While a study by Lange et al. (2018) found that mature economies may demonstrate a more linear growth pattern when measured in GDP per capita, the question remains how to keep meeting increasing energy and resource demands.

2. Economic growth is causing ecological breakdown. Economic activity puts extreme pressure on ecosystems and causes the deterioration of natural environments, leading to climate change, deforestation, biodiversity loss, ocean acidification, soil depletion, and species extinction (Hickel, 2020, 2021). As stated by Schmelzer (2015), “through the global spread of capitalist modes of production and living humanity itself has become the dominant geological force on planet earth” (p. 262). For example, much of the economic growth created has been made possible by burning fossil fuels, resulting in dangerously high concentrations of carbon dioxide (CO₂) in the atmosphere (Antal & Van Den Bergh, 2016; Liu et al., 2021). Increased CO₂ concentrations directly contribute to global warming and ocean acidification and pose a significant risk to human health (Jacobson et al., 2019; Steffen et al., 2015). Furthermore, economic growth is also causing environmental degradation through land-use changes (such as agricultural expansion), which harms biodiversity, contributes to emissions, and reduces the planet’s natural carbon sequestration capacity (Guerrero-Pineda et al., 2022; Liu et al., 2021).

Importantly, there is insufficient evidence to suggest that the relationship between economic development and environmental damage changes over time. The Environmental

Kuznets Curve (EKC) hypothesis suggests that economic development (measured in GDP per capita) and its ecological impact exhibit a concave and non-linear relationship (Liu et al., 2021). In other words, the correlation only exists until a certain point, after which economic growth can continue while the environmental damage starts lowering. While some studies support the hypothesis (e.g., Awaworyi et al., 2018; Chu, 2021), others call for more robust research. For example, Mills and Waite (2009) argue that the EKC oversimplifies the relationship between economic development and environmental degradation. Rashid et al. (2018) argued that the growth path proposed by the EKC is too resource intensive with high costs to the environment and human well-being. Furthermore, Liu et al. (2021) found that the research focuses too much on carbon emissions while ignoring other environmental indicators. The concept of separating environmental growth from environmental impacts will be further discussed in later sections on green growth and decoupling.

3. GDP is a flawed way of estimating well-being and social progress. GDP remains highly influential in policymaking yet is increasingly acknowledged as an inadequate measure of social progress and well-being (Giannetti et al., 2015; Kubiszewski et al., 2013; Nature, 2010; World Inequality Report, 2022). In a report by the World Health Organization (2022), GDP is described as “an inappropriate measure of progress that perversely rewards profit-generating activities which harm people and destroy ecosystems, undermining what we really value” (p. 6). GDP risks inflating the value of environmentally destructive or socially harmful activities – such as logging or oil spills - while undervaluing socially necessary services (Kubiszewski et al., 2013; Nature, 2010). For instance, “the pathological obsession with GDP” is identified as a critical reason why essential health services and care work go underfunded (World Health Organization, 2022, p. 6). Even Simon Kuznets, the person who developed the GDP measurement, has argued that GDP must be considerably adopted and not be utilized as a welfare measure without deeper interpretation (European Commission, n.d.; Hickel, 2020). Kuznets stated that “distinctions must be kept in mind between quantity and quality of growth, between its costs and return, and between the short and long term. Goals for more growth should specify more growth of what and for what” (European Commission, n.d., para. 26). Hence, there is a need to adopt other measures to help monitor progress, evaluate well-being, and inform policy making (Giannetti et al., 2015). Efforts are already being made in this direction. In the 1970s, the Kingdom of Bhutan adopted the Gross National Happiness (GNH) index, which seeks to provide a more holistic measure of well-being (Yangka et al., 2018). Similarly, countries such as New Zealand, Iceland, and Scotland have developed ‘Well-being Budgets’,

acknowledging that economic growth alone cannot ensure well-being (Fitzpatrick et al., 2022; New Zealand Treasury, 2019).

4. People are not benefiting equally from economic growth. While extreme poverty is decreasing (Roser, 2021), global inequalities remain a persistent challenge (World Inequality Report, 2022). According to the World Inequality Report (2022), there has actually been a general increase in wealth and income inequality since the 1980s. Looking at the global population, 76% of global wealth and 52% of all income are captured by the wealthiest 10% of people. In comparison, the poorest 50% only own 2% of global wealth and 8.5% of all income. The report notes that this inequality exists both between and within countries and that “national average income levels are poor predictors of inequality” (World Inequality Report, 2022, p. 11). For instance, some high-income countries have high inequality (e.g., the United States), while some low-income countries have low inequality (e.g., Uruguay). The report further emphasizes that “inequality is a political choice, not an inevitability” (World Inequality Report, 2022, p. 11). (World Inequality Report, 2022) A key contributor to increasing inequalities is the privatization of capital (World Inequality Lab, 2018). Hence, authors such as Jackson (2019) and Hickel (2020) argue that economic growth perpetuates this inequality by emphasizing private wealth accumulation.

Similarly, the damages of economic growth - in terms of climate breakdown - are also not felt evenly. The World Inequality Report (2022) estimates that 50% of all emissions come from the wealthiest 10%, while the poorest half of the population has only contributed to about 12% of global emissions. Historically, the United States has contributed the most to global emissions, accounting for about 25% of historical emissions (Ritchie, 2019). The second largest emitter is the European Union countries, responsible for about 22% of historical emissions (Ritchie, 2019). However, climate change and environmental breakdown disproportionately affect poor and vulnerable communities (Guivarch et al., 2021; World Bank, n.d.).

5. After a certain point, more growth does not contribute to more happiness. Lastly, a key argument by the degrowth movement is that even if infinite economic growth were possible, it would not be desirable as it is not necessarily conducive to well-being (Akbulut, 2021). SDG 8, which calls for continued global economic growth, positions growth as a precursor for human progress and improved living (Hickel, 2019). However, the degrowth literature often highlights how countries such as Spain and Costa Rica perform significantly higher on key social indicators (e.g., life expectancy) than the United States despite having substantially lower GDP per capita (Hickel, 2020; Hickel et al., 2021). An interesting study by Kubiszewski et al. (2013) indicates that growth may only be beneficial to a certain point. The

study evaluated how alternative welfare measures – including the Genuine Progress Indicator and Human Development Index - have developed compared to GDP from 1950 to 2003. The study found that economic welfare globally peaked in 1978 and that there had not been significant increases in life satisfaction since 1975, even as GDP increased. The authors even indicated that a slight reduction in GDP within industrialized nations could enhance welfare. Hence, many people advocating for degrowth argue that well-being depends not on the size of the economy but on how wealth is distributed and invested in public services (Hickel, 2020; Hickel et al., 2021).

2.2. Growth discourses for a sustainable economy and future

As the environmental damage caused by economic activity has become increasingly clear, various discourses and proposals have emerged on how to ensure a more sustainable economy and future for humanity. As understanding degrowth requires understanding how it differs from the other discourses - particularly the most mainstream discourse of green growth – this section outlines the key discourses and proposals for a more sustainable economy. The section will focus on the discourses outlined in Table 1, starting with the proposal for green growth and then on the post-growth discourses.

Table 1: *Key discourses for a sustainable economy.*

Discourse	Definition
Green Growth	Focuses on investments, technology, and innovation to foster continued economic growth and development, which is to be decoupled from carbon emissions and environmental damage. Solutions to the climate crisis focus on developing and adopting low-carbon technologies, improved efficiency, innovation, and market-based solutions (OECD, 2011).
Post-Growth	An umbrella term for alternative growth discourses that challenges the current economic system's emphasis on growth and seeks new ways of organizing society, focusing on social and environmental objectives (Akbulut et al., 2019).
A-growth	Argues for policies prioritizing sustainability and well-being regardless of their impact on economic growth. Growth is viewed as irrelevant, and the stream is hence 'agnostic' to growth. (Akbulut et al., 2019)
Steady State Economics	Seeks to achieve “non-growing economies based on a constant material and energy throughput as well as stable populations” (Akbulut et al., 2019, p. 2)
Degrowth	Critiques the growth imperative and proposes a planned and democratic reduction of economic activity – i.e., production and consumption – in order to operate within the planet's ecological limits. This is coupled with a larger reorientation of our societies towards socio-ecological well-being and respect for human and non-human life. (Demaria et al., 2013; Hickel, 2020)

As seen in Table 1, the discourses adopt different approaches and attitudes towards growth moving forward, ranging from being supportive, agnostic, or against the continuation

of economic growth. Hence, the discourses also exhibit different proposals and ideas on how to ensure a thriving and sustainable future.

2.2.1. Green growth

While the ‘green’ or ‘sustainable growth’ proposal emerged in the early 2010s (Hickel & Kallis, 2020), its roots can be traced back to the 1987 Brundtland report, which argued for “a new era of economic growth – growth that is forceful and at the same time socially and environmentally sustainable” (Brundtland, 1987, p. 7). Today, it has become the dominant strategy for pursuing sustainability and is supported by leading multilateral organizations like the United Nations, the World Bank, and the OECD (Schmalensee, 2012). The discourse focuses on promoting “economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies” (OECD, 2011, p. 9). Advocates of green growth argue that sustainability is possible within a growth-based or capitalist economy by utilizing market-based solutions, investments in clean energy, technological innovations, and efficiency improvements that effectively separate economic growth from its negative environmental impacts (Buch-Hansen & Carstensen, 2021; Hickel & Kallis, 2020). For instance, the OECD’s (2011) Green Growth Strategy focuses largely on productivity improvements, innovation, “stimulating demand for green technologies, goods, and services,” managing resource bottlenecks, and utilizing market-based solutions to discourage environmentally damaging behavior (p. 9). Hence, rather than transforming our economic system, green growth proposes changes within the current system to reduce emissions and environmental damage (Buch-Hansen & Carstensen, 2021).

However, there is currently a lack of research and evidence to support the idea that economic growth can be effectively separated or decoupled from its environmental impacts at the speed and scale needed to prevent ecological breakdown (Akbulut, 2021; Banerjee et al., 2021; Hickel & Kallis, 2020). Despite carbon pricing, political commitments, and green technologies, CO₂ emissions are still rising (Buch-Hansen & Carstensen, 2021). To ensure environmental sustainability, Vadén et al. (2020) state that decoupling must be “global, absolute, fast-enough and long-enough” (p. 236). Absolute decoupling would occur when the material footprint decreases while GDP increases (Bauwens, 2021). However, in reviewing 179 articles on decoupling, Vadén et al. (2020) found that there is currently not enough evidence to indicate that such a level of decoupling is possible. The authors concluded that pursuing decoupling as the primary strategy to deal with the climate crisis represents a significant risk for our future, and hence “more attention should be given to conceptualisations of economy

that do not rely on economic growth as the key route towards ecological sustainability and human wellbeing” (Vadén et al., 2020, p. 243). Antal and Van Den Bergh (2016) made the same conclusion a few years earlier. Similarly, a review by Haberl et al. (2020) found evidence of relative decoupling but concluded that “large rapid absolute reductions of resource use and GHG emissions cannot be achieved through observed decoupling rates,” highlighting the need for “sufficiency-oriented strategies and strict enforcement of absolute reduction targets” (p. 1).

The green growth discourse has further been criticized for ignoring the rebound effect and relying too much on negative emissions technologies. Firstly, the rebound effect proposes that efficiency improvements can actually contribute to increased consumption or production (Stern, 2020). Hickel (2020) explains that companies in growth-based economies are incentivized to use efficiency saving to increase production and facilitate growth. Hence, environmental gains created by efficiency improvements are often offset by an increase in the overall quantity produced and consumed (Bauwens, 2021; Siami & Winter, 2021). Consequently, Brockway et al. (2021) found it likely that “economy-wide rebound effects could erode more than half of the anticipated energy savings” (p. 15) outlined in several climate and energy scenarios. Furthermore, all scenarios developed by the IPCC to limit global warming to 1.5°C see a continuation of economic growth and are stated to rely on highly speculative and uncertain carbon capture technologies (Keyßer & Lenzen, 2021). However, effectively employing these negative emissions technologies at the scale needed if continuing the current trajectory appears highly unlikely (Hickel, 2020; Hickel et al., 2021), and some warn of the potential consequences this would have on land use, biodiversity, and even food prices (Hickel, 2020; Keyßer & Lenzen, 2021; Muraca & Neuber, 2018).

2.2.2. Post-growth discourses

In contrast to the green growth discourse, post-growth discourses challenges "the sustainability and imperative of more growth especially in already industrialised countries and argues that prosperity and the 'Good Life' are not immutably tied to economic growth" (IPCC, 2022, Ch. 1, p. 178). Hence, post-growth is an umbrella term for different discourses that propose orienting societal structures around social and ecological well-being rather than economic growth, as the two are not considered inherently aligned (Akbulut et al., 2019).

The three main streams within post-growth are a-growth, steady-state economics, and degrowth. A-growth is considered neutral or agnostic towards growth, proposing a move away from GDP as a policy-guiding tool and instead focusing on ensuring policies that support socio-ecological well-being regardless of their impact on growth. Hence, an a-growth economy may

or may not be growing. The importance is providing social progress and environmental protection independent of growth. (Van den Bergh & Kallis, 2012) Steady-state economics, however, focuses on developing stable and non-growing economies (Akbulut et al., 2019, p. 2). The stream is built on the works of Herman Daly, who proposed the development of a sustainable zero-growth economy in response to mainstream 'growthmania' (Daly, 1974; Kerschner, 2010). However, the degrowth discourse argues that a redistributive reduction in economic activity is needed to facilitate a sustainable steady state that is socially just and respects the planetary boundaries (Akbulut et al., 2019; Kallis et al., 2020). Hence, degrowth is more of a transformative process rather than its own objective (Cosme et al., 2017; Schneider et al., 2010). Nevertheless, the deliberate focus on an economic retraction positions degrowth as the more radical stream within post-growth and strongly opposes the mainstream 'green growth' discourse (Banerjee et al., 2021).

2.3. The degrowth discourse

2.3.1. Origin and meaning

Décroissance (degrowth) can be traced back to the 1970s and the works of social philosopher André Gorz who questioned the compatibility between global balance and the capitalist system. His work was partly inspired by economist Nicholas Georgescu-Roegen's "The Entropy Law and the Economic Process" (1971), which used thermodynamics to warn about the degradation of resources in economic activity. (Akbulut, 2021; D'Alisa et al., 2015) The origin of degrowth was further influenced by the highly debated Club of Rome's rapport on "The Limits to Growth" (Weiss & Cattaneo, 2017). However, degrowth first began gaining traction as a social movement and academic field in the 2000s (Weiss & Cattaneo, 2017). Increasing environmental concerns and the recent COVID-19 pandemic appear to have particularly contributed to a boosted interest in degrowth as a potential pathway for a more sustainable society and economy. For instance, over 1,100 scientists have signed an open letter encouraging the pursuit of degrowth following the coronavirus pandemic (Degrowth.info, 2020).

One of the more commonly used definitions of degrowth is provided by Schneider et al. (2010), which defines it as "an equitable downscaling of production and consumption that increases human well-being and enhances ecological conditions at the local and global level, in the short and long term" (p. 511). Hickel (2021) similarly described degrowth as "a planned reduction of energy and resource use designed to bring the economy back into balance with the living world in a way that reduces inequality and improves human well-being" (p. 1105). By reducing consumption, changing to more sustainable modes and objectives for production, and

changing our overall relationship with nature, a degrowth transition seeks to avoid planetary overshoot, allow for environmental regeneration, and facilitate well-being for human and non-human life (Hickel, 2020).

While degrowth is about reducing the scale of economic activity and consumption, it must be more fundamentally understood as a critique of the economic growth paradigm and a proposal to rethink our economic system to better align with social and environmental sustainability (Kallis et al., 2020). As stated by Akbulut (2021), degrowth calls for a "break with economic growth as a societal goal and to oppose the automatic association of growth with better outcomes – that is, the ideology of growth" (p. 98). As highlighted earlier, degrowth activists and academics argue that pursuing constant growth harms humans and non-humans by leading to planetary overshoot, social inequalities, and injustices. As continuous economic growth is neither environmentally sustainable nor socially desirable, we must pursue a future where humanity can thrive without growth (Akbulut, 2021; Schneider et al., 2010). Hence, an economic contraction must, importantly, be coupled with a fundamental transformation of our society away from growthism and towards values of conviviality, community, justice, sufficiency, equity, and ecological and social sustainability (Akbulut, 2021; Hickel et al., 2021; Schneider et al., 2010).

Degrowth further refers to a planned and democratic transformation rather than an unplanned, uncontrolled, and harmful recession (Hickel, 2020). Words such as 'deliberate,' 'conscious,' 'planned,' and 'intentional' are frequently used in descriptions of a degrowth transition to help reflect the deliberate nature of degrowth (Smith et al., 2021). For example, Hickel (2021) describes degrowth as "a planned, coherent policy to reduce ecological impact, reduce inequality, and improve well-being" (p. 1108). Furthermore, Cosme et al. (2017) state that "a degrowth path might include a period of negative growth, but only during the time needed for a transition to an economic system that does not collapse with economic contraction" (p. 322). This planning is further needed to facilitate the qualitative economic shift proposed by degrowth (Akbulut, 2021). As stated by Schmelzer et al. (2022), "degrowth stands for a society with a lower social metabolism but, more importantly, a social metabolism with a different structure that fulfils new tasks" (p. 193). This means that while degrowth advocates for reducing or eliminating ecologically damaging and socially unnecessary production (e.g., SUVs and fast fashion), it also seeks to revalue and expand socially valuable sectors (e.g., health care and education) (Hickel, 2020; Smith et al., 2021). Hence, degrowth is not only about a contraction of economic activity but also a more fundamental shift in the contents and purpose of the economy.

It should be noted that degrowth will have different implications in different areas of the world. First, the degrowth movement acknowledges the different roles that wealthier and poorer countries have played in contributing to the climate crisis. As highlighted earlier, wealthy industrialized countries - such as the United States and the European Union – are responsible for a significant proportion of historical emissions. Furthermore, economic growth may still be needed in poorer countries to support poverty reduction and well-being – though consideration must be made concerning how this growth is achieved, the wealth distributed, and the fairness of trade agreements (Hickel, 2021; Kallis et al., 2020; Lloveras et al., 2022). Hence, degrowth proposes that economic contraction is mainly needed in wealthier countries (i.e., predominantly the Global North), while poorer and less developed countries might see a deceleration of and qualitative shift in economic growth (Hickel, 2021; Kallis et al., 2020; Lloveras et al., 2022).

2.3.2. Degrowth policies and proposals

According to a literature review by Cosme et al. (2017), degrowth can be thought to have three key objectives; “(1) Reduce the environmental impact of human activities; (2) Redistribute income and wealth both within and between countries; and (3) Promote the transition from a materialistic to a convivial and participatory society” (p. 321). Examining 128 papers, the authors identified over 70 policies proposed by the degrowth literature and discussed them in relation to the three overarching goals. Another review by Fitzpatrick et al. (2022) examined 1166 texts related to degrowth and identified 530 proposals relating to policy themes, such as “food, culture and education, energy and environment, governance and geopolitics, indicators, inequality, finance, production and consumption, science and technology, tourism, trade, urban planning, and work” (p. 1).

Focusing on environmental sustainability and ecological well-being, the reviews identified various proposals for reducing environmental impacts through better environmental protection, biodiversity restoration, and undoing ecological breakdown where possible. Proposals include facilitating significant changes to consumption patterns and production practices, using renewable energy, reducing waste, promoting sufficiency-based lifestyles, and imposing taxes on consumption, emissions, environmental externalities, and resource use. Other proposals include ending environmentally harmful activities and industries, capping resource extraction and emissions, limiting trade distances, encouraging local production, limiting advertising, ending planned obsolescence, and promoting sharing over ownership. (Cosme et al., 2017; Fitzpatrick et al., 2022)

Concerning social well-being, the policies identified seek to ensure equitable wealth redistribution and reduce social inequalities. Proposals include implementing improved social security systems, providing a basic income, implementing job guarantees, reducing working hours, improving employment in socially valuable and necessary industries, promoting job-sharing, and creating salary caps. Furthermore, it is proposed to increase investment in public goods and services, implement steep progressive taxation, wealth, and inheritance tax, and remove tax havens. (Cosme et al., 2017; Fitzpatrick et al., 2022) Furthermore, to develop a more convivial and participatory society, proposals have also focused on promoting a fundamental change in our social values, decentralizing democratic institutions, promoting sustainable and frugal lifestyles, developing new measures to evaluate social welfare and progress, and putting caps on electoral spending (Cosme et al., 2017). This also includes removing GDP as a tool for policy development, transforming education systems, valuing indigenous and local knowledge, and developing ecological consciousness (Fitzpatrick et al., 2022).

To help illustrate the different objectives between the green growth and degrowth discourses, Table 2 outlines the key proposals and solutions provided by the two discourses. The table is inspired by Xue (2018) but is also based on findings from the literature review.

Table 2: Green growth vs degrowth

Category	Green growth	Degrowth
<i>Perception of well-being</i>	Focused on capital accumulation and materialistic goods (i.e., money and material items as key to ensuring the quality of life) (Hickel, 2020; Xue, 2018).	Focused on non-materialistic sources of happiness and well-being (such as social relationships) with limited environmental impact (Hickel, 2020).
<i>Perception of economic growth</i>	Growth dependent. Economic growth is required to develop and improve the quality of life. (Hickel, 2020)	Not growth dependent. Economic growth is not needed to improve quality of life and may damage it. (Hickel, 2020)
<i>Proposals for environmental sustainability</i>	Focus on eco-efficiency to remove the environmental impacts of economic growth (OECD, 2011; Xue, 2018).	Absolute decoupling is not possible, hence a reduction in overall production and consumption is needed (Hickel, 2020; Hickel & Kallis, 2018).
	Technological innovations, such as carbon capture technologies (Hickel, 2020).	Technological improvements may help but cannot provide absolute decoupling and must, therefore, be combined with an economic contraction and transition to a non-growth-dependent economy (Fitzpatrick et al., 2022; Hickel, 2020).
	Slowly phase out fossil fuels for renewable energy (OECD, 2011).	Eliminate fossil fuels and ensure responsible use of renewable energy (Fitzpatrick et al., 2022).

	Carbon tax to disincentivize pollution (OECD, 2011).	Carbon tax to disincentivize pollution (Fitzpatrick et al., 2022).
	Improve energy efficiency (OECD, 2011).	Improve energy efficiency (Cosme et al., 2017; Xue, 2018).
	Encouraging consumption of 'greener' products (OECD, 2011).	Encourage sufficiency-based lifestyles (Fitzpatrick et al., 2022).
<i>Policy proposals for improved social well-being</i>	Full employment and higher labor productivity.	Less working time and better government 'safety nets' (e.g., universal basic income) (Fitzpatrick et al., 2022).
	Distribution through the trickle-down effect (Xue, 2018).	Distributive justice through steep taxation and wealth tax (Fitzpatrick et al., 2022; Hickel, 2020).
	Decision-making is still guided based on economic growth to facilitate wealth and well-being and avoid recessions (Hickel, 2020).	Utilizing new or alternative measures of human happiness to guide decision-making (rather than GDP) (Fitzpatrick et al., 2022).

As seen in Table 2, while there is some overlap concerning environmental policies, such as utilizing renewable energy and carbon taxation, the two discourses hold opposing views on how to achieve a sustainable society. Policies related to green growth do not seek to limit or reduce overall consumption but rather seek to utilize innovation and efficiency improvements to foster sustainability. In contrast, degrowth refuses this logic and seeks to radically transform our society to one focused on sufficiency and non-materialistic sources of happiness.

2.3.3. Criticism of degrowth

The literature review further revealed some important criticisms of degrowth. These must be acknowledged to ensure a more holistic understanding of the discourse and to assess their relevance for the thesis research question and focus. The first identified criticism focuses on degrowth's rather vague meaning and multiple interpretations. For instance, Van den Berg (2011) explores five common interpretations of degrowth, namely GDP degrowth, consumption degrowth, worktime degrowth, radical degrowth, and physical degrowth. The concern is that the different interpretations or approaches to degrowth make it an ambiguous and confusing concept without a meaningful definition (Van den Berg, 2011).

Others, however, express concern about the word 'degrowth' itself. The term has been described as a "missile word" given its provocative nature and ability to stir debate. Some appreciate the provocativeness of the term as it creates interest and reflects the movement's break with the growth paradigm. However, the term may cause unfamiliar individuals to think of degrowth as a recession, consequently linking it to feelings of anxiety and resistance. (Drews & Antal, 2016) Hence, Drews and Antal (2016) proposed rebranding the movement to develop "a broader and more coherent narrative" (p. 186). However, a later study by Drews and Reese

(2018) found that while the term degrowth tends to be more negatively perceived than post-growth or prosperity without growth, this was unlikely to be consequential with regard to public communications about degrowth.

Lastly, some argue that there are potential issues associated with degrowth's approach. For instance, Van den Berg (2011) examined the different interpretations of degrowth, focusing on their ability to reduce environmental harms and gain social-political support. The author highlights the risk of unintended consequences – such as reduced investments in renewable energy – and argues that degrowth may not be an effective, efficient, or socially viable approach to address the climate crisis. Others question how degrowth in the Global North while still allowing for growth in the Global South prevents ecological breakdown when the majority of future CO₂ emissions are estimated to come from less developed countries (Piper, 2021).

Despite these critiques, the literature review still indicates that degrowth offers an interesting discourse based on solid criticisms of economic growth practices and green growth discourse. Tying this back to the thesis research focus and questions, the next section will discuss the role of business models in facilitating this quantitative and qualitative shift.

2.4. Degrowth business models

2.4.1. The impact of degrowth on business

Understanding what a degrowth future means requires understanding how it relates to the actors and social structures needed to realize such a vision – including corporations, who are the key drivers behind economic growth (Khmara & Kronenberg, 2018; Nesterova, 2020). Within a capitalist system, production is mainly controlled by privately owned companies that seek to maximize profits and returns (Hinton & Maclurcan, 2017; Jahan & Mahmud, 2015). There is a belief that corporations must either grow or die, i.e., see continually increased earnings and seek expansion (Hess, 2010). As a result, production focuses primarily on exchange value (capital accumulation) rather than use-value (socially needed production) (Hickel, 2020). However, as previously discussed, this pursuit of continued economic growth has contributed to significant environmental devastation and socioeconomic inequality. Hence, the capitalist approach to business certainly does not align with the objectives of degrowth and indicates a need for substantial change. Furthermore, while many policies proposed in the degrowth literature require government policies and intervention (e.g., taxation and public services), several proposals require businesses' direct action and implementation (e.g., reduced working hours) (Khmara & Kronenberg, 2018). Based on objectives and policies associated with degrowth, a degrowth transition would require businesses to significantly transform their activities and

consider their non-economic value, purpose, and impact. This would involve contributing to social well-being and ensuring ecological sustainability throughout the company's value chain. However, based on the criticisms of the green growth discourse, degrowth businesses need to go beyond eco-efficiency and contribute towards an aggregate reduction in production and consumption (Hickel, 2020; Nesterova, 2020). For instance, Banerjee et al. (2021) state that “organizations must respect the ecological limits that constrain the economy and other principles consistent with post-growth thought”, including “identifying ways to create value that do not depend on traditional forms of growth” (pp. 345–346). Hence, degrowth makes different requirements on business when compared to the green growth discourse and, in effect, proposes a fundamental change in how business is understood and organized.

2.4.2. Assessing the current contributions from the business model literature

A business model is often described as the conceptualization of an organization's mechanisms for creating, delivering, and capturing value (Osterwalder et al., 2010). Emerging as a concept in the 1990s (Geissdoerfer et al., 2018), business models have become useful tools for effectively representing complex business ideas (Nosratabadi et al., 2019). They allow for the assessment of critical business elements, such as a company's product offerings, resources, production processes, distribution channels, and financial structures (Bocken et al., 2014; Lozano, 2018), as well as how they interact and influence each other (Geissdoerfer et al., 2018). Changes and innovations within business models can change how companies operate and hence play an important role in facilitating a transition towards more sustainable practices (Bocken & Short, 2016; Goni et al., 2021). According to Molina-Castillo et al. (2021), “a unique feature of the business model perspective is that it allows non-science managerial audiences to appreciate discussions about planetary boundaries and system change requirements, which otherwise would be suppressed by the narrow focus on management concepts such as revenue and profit” (p. 1). Furthermore, as the discussion about corporate sustainability has evolved, there has also been significant discussion on how to incorporate sustainability principles in business models (França et al., 2017; Lozano, 2018). Hence, a key step in utilizing the concept of business models to explore degrowth involves reviewing the current literature on business models to identify those that share some of the values of degrowth and then assessing the extent to which the objectives of degrowth are already being addressed within the business model literature.

For the context of degrowth, the literature review identifies circular business models, sufficiency-based business models, not-for-profit businesses, and non-growing businesses as particularly relevant for the discourse, as well as the umbrella concept of sustainable business

models. While not-for-profit business models and non-growing businesses are examples of alternative, rather than sustainable, business models, both have been previously discussed in the context of post-growth and degrowth and share principles aligned with degrowth (see e.g., Hinton, 2020; Hinton, 2021; Khmara & Kronenberg, 2018). Table 3 provides the key findings from the literature review, outlining each business model's relevance for degrowth, proposed strategies for operationalization, and key limitations when assessed in the context of degrowth.

Table 3: Summary of the reviewed business models.

Category	Sources	Relevance	Example of operationalization	Limitation
<i>Sustainable business models</i>	Alonso-Martinez et al. (2021), Bocken et al. (2014), Goni et al. (2021), Lüdeke-Freund and Dembek, (2017)	Incorporates sustainability principles into all business model elements.	<ul style="list-style-type: none"> • Integrate sustainability into the company's purpose. • Promote sufficiency and sustainability. • Acknowledgment and accountability to a broader range of human and non-human stakeholders. • Work towards sustainable production practices. 	<ul style="list-style-type: none"> • Umbrella concept consisting of a wide range of sub-types. • Mostly follow the green growth narrative, i.e., ignores limitations of growth-based economies.
<i>Circular business models</i>	Bauwens (2021), Chen (2020), Geissdoerfer et al. (2020), Lüdeke-Freund et al. (2019)	Focuses on reducing resource use and waste by closing material loops.	<ul style="list-style-type: none"> • Use fewer resources in production and embrace recycling practices where possible. • Enhance the lifetime and reparability of products. • Encourage the sharing of products (over individual ownership). • Focus on service or software-based products over physical goods. 	<ul style="list-style-type: none"> • Traditionally, circular business models are used to facilitate green growth. • Tends to emphasize technological fixes. • Does not address total consumption and can still contribute to overconsumption. • Does not provide guidelines with regard to social well-being.
<i>Successful non-growing companies</i>	Liesen et al. (2015)	Adopts a non-growth strategy	<ul style="list-style-type: none"> • Focus on quality of production rather than quantity. • Reasonable and fair distribution of profit and wages. • Adopt non-financial indicators for performance. 	<ul style="list-style-type: none"> • Are not necessarily adopted for sustainability reasons. • Needs more research.

<i>Not-for-profit companies</i>	Hinton (2020)	Ensures a legal purpose of social/environmental impact over profit and financial gains.	<ul style="list-style-type: none"> • Avoid equity-based financing. • Encouraged shared or collective ownership. • Reinvest profits into achieving the company's social and/or environmental mission. • Ensure a not-for-profit legal structure. 	<ul style="list-style-type: none"> • Is not prescriptive regarding social and environmental impacts. • May be dependent on a larger macroeconomic shift towards a non-profit economy. • Needs more research.
<i>Sufficiency-driven business model</i>	Beyeler and Jaeger-Erben (2022), Bocken and Short (2016), Tunn et al. (2019).	Focuses on reducing or moderating overall consumption.	<ul style="list-style-type: none"> • Facilitating sharing over ownership. • Enhance the lifetime and reparability of products. • Facilitating the reuse of products. • Reducing waste throughout the value chain. • Adopt more conscious sales and marketing strategies. • Adopting new revenue models. • Focusing on meeting human needs (not wants). 	<ul style="list-style-type: none"> • Focus primarily on environmental sustainability. • Does not provide much insight into governance and social relations.

As seen in Table 3, while each of the reviewed business models can provide insights into the operationalization of degrowth, they exhibit certain limitations when assessed in the context of degrowth's objectives. For instance, the review has provided insights into developing a more environmentally friendly or sustainable business model through integrating circular economy principles (see Chen, 2020; Geissdoerfer et al., 2020). However, as much of the literature on circular business models follows the green growth discourse, it has received critiques for relying on technological fixes and not addressing the issues of aggregate consumption (Bauwens, 2021; Bocken & Short, 2016). Similarly, while the literature on non-growing companies can provide insights into how companies can successfully implement a non-growing strategy, these business models are relatively under-researched and do not necessarily feature socio-ecological values. For instance, Liesen et al. (2015) identified various motivations for adopting a non-growth strategy, such as avoiding complexity in hierarchical and administrative structures that could damage profitability. Furthermore, the use of not-for-profit legal structures is already being discussed in the context of post-growth as a way to deal with issues of consumerism, profit maximizations, and the associated ecological damage and wealth inequalities caused (see Hinton, 2020). In short, not-for-profit business models help avoid perverse incentives for profit maximization by removing private financial rights and equity-based funding and ensuring that any profits generated are reinvested into achieving the company's social or environmental mission (Hinton, 2020). However, the business model is not prescriptive concerning the specific environmental and social activities and efforts made.

Sufficiency-driven business models, however, provide unique insights into the operationalizing of degrowth, as it is the only business model identified that aligns with degrowth's objective to reduce consumption. Advocates for sufficiency-driven business models share degrowth's concern about aggregate consumption levels and seek to facilitate sufficiency, which is described as "a state of enoughness that replaces ever-expanding material consumption" (Beyeler & Jaeger-Erben, 2022, p. 2; see also Bocken & Short, 2016). Hence, sufficiency-driven business models seek to go beyond eco-efficiency efforts to reduce or moderate resource consumption and demand by influencing consumer behavior (Bocken & Short, 2016), consequently operating outside the green growth discourse. However, sufficiency-driven business models, as with the other four types, provide only limited insights into the social elements of a business, such as our approach to work, employment, and governance – which play an important role in degrowth (Khmara & Kronenberg, 2018). Hence, the literature review concludes that while valuable insights are found concerning

operationalizing specific elements and principles of degrowth, none of the reviewed business models fully align with the ideas and objectives of degrowth. This conclusion was also found by Khmara and Kronenberg (2018), who argued that while sustainable and alternative business models can contribute towards degrowth, the largest impact will require individual companies to bring together multiple different elements of business models for sustainability.

2.4.3. Existing knowledge of degrowth business models

This section will review three papers on degrowth business models and frameworks, seeking to understand current conceptualizations of degrowth businesses and identify potential tensions or gaps in the literature. Before reviewing the papers, however, it should be noted that the literature uses slightly different vocabulary when discussing business within the context of degrowth (Nesterova, 2021). Terms used include 'degrowth business' (see Nesterova, 2020, 2021), 'degrowth-approaching' or 'degrowth-conforming organization' (see Hankammer et al., 2021), and 'post-growth business/organization' (see Banerjee et al., 2021; Hinton, 2021). The thesis has and will continue to use the terms "degrowth business" and "degrowth business models," referring to businesses and business models that adhere to degrowth principles. While Nesterova (2021) defines a degrowth business as "a business suitable for a degrowth economy" (p. 3), the thesis will allow for futures in which the current economic system is continued. However, any deviation from degrowth principles in such futures will be discussed.

One of the first papers discussing degrowth business models and the operationalization of degrowth in business is by Khmara & Kronenberg (2018). Based on an extensive literature review, the authors developed a list of seven criteria to assess the degree to which a company adheres to degrowth. The seven criteria are: "(1) Alternative understanding of business; (2) From business activity to activism and social movement; (3) Collaborative value creation; (4) Democratic governance; (5) Corporate leaders' commitment to company values in personal life; (6) Reduction of environmental impacts at all stages of product/service life-cycle; (7) Making products that last and are repairable" (Khmara & Kronenberg, 2018, p. 721). This was then used to evaluate the performance of the apparel company Patagonia. Overall, the paper found "that certain compromises would have to be made to make degrowth consistent with at least some existing business types and models" (Khmara & Kronenberg, 2018, p. 730), indicating challenges in implementing a degrowth business adhering to all seven criteria in the current economic context.

Continuing this work, Hankammer et al. (2021) developed their own set of guiding principles for degrowth businesses. This followed a similar approach where a list of criteria was

developed based on a systematic literature review and then used to assess existing companies' alignment with degrowth. The authors identified 11 guiding principles and oriented them around five key stakeholders: society, the environment, customers, employees and management, and communities. Similarly to Khmara and Kronenberg, the guiding principles focus on adopting a new understanding of business aligned with socio-ecological well-being, ensuring a reduction in environmental impact through more sustainable production practices and product design, promoting democratic governance, and encouraging localized businesses. Hankammer et al. (2021) further included principles related to promoting degrowth thinking, enabling sharing of products and resources, and facilitating work-life balance. Assessing the performance of four different B Corp-certified organizations using the 11 principles, the authors found that while some had "successfully implemented numerous degrowth-approaching principles in their organization" (Hankammer et al., 2021, p. 1), none of them fully conformed to degrowth. The authors also noted that "the regional, cultural and political contexts in which organizations are embedded" (Hankammer et al., 2021, p. 12) seem to influence the orientation towards degrowth principles, particularly those related to governance and employment. This indicates that the transition towards degrowth and adoption of degrowth businesses may look different in different geographies and cultures. (Hankammer et al., 2021)

Lastly, Nesterova (2020) also presented a framework to characterize degrowth business models. While Khmara and Kronenberg (2018) and Hankammer et al. (2021) both looked at the operationalization of degrowth within the current economic system, Nesterova (2020) begins from the perspective of a degrowth economy. In the paper, Nesterova (2020) identified three key pillars of change within degrowth that must be applied to firms; "(1) downscaling of our economies, (2) increase in and orientation towards wellbeing and (3) a shift in values which would underpin those and make co-existence between humanity, nature and non-humans sustainable" (p. 4). Based on this, Nesterova (2020) compiled a list of 22 elements that a degrowth business should incorporate. Note that the list is meant to encourage conversation and is not meant to be a final or exhaustive list. Nevertheless, many of the criteria outlined by Nesterova (2020) are similar to those identified by Khmara and Kronenberg (2018) and Hankammer et al. (2021), such as reduction in material throughout and waste, improving the durability of products, localization of business activity, moving away from profit maximization, and production-focused on environmental and social well-being. Like Hankammer et al. (2021), Nesterova (2020) uses different dimensions to categorize the criteria, namely "(1) environment, (2) people and non-humans, and (3) deviation from profit maximization imperative" (p. 1). The category "people and non-humans" incorporates workers, community, and non-human life.

Notably, the author does not specify customers as an individual segment, though this would likely be incorporated into the community segment.

To provide a more detailed comparison of the three papers, Table 4 outlines the different criteria for a degrowth business provided by the authors.

Table 4: Current conceptualizations of degrowth businesses

Dimension	Criteria	Khmara and Kronenberg (2018)	Hankammer et al. (2021)	Nesterova (2020)
Activism	Encourage degrowth and pro-environmental behavior within the organization.	✓	✓	
	"Promote the societal acceptance of degrowth thinking" (Hankammer et al., 2021, p. 5).		✓	
Approach to business	Adopts a non-capitalist or alternative understanding of business.	✓	✓	✓
	Explore alternative ownership and collective ownership structures.	✓	✓	✓
	Facilitates a qualitative change away from consumerism, productivism, and material well-being.	✓	✓	✓
	Mission and purpose beyond seeking profits (e.g., to solve environmental or social issues).	✓	✓	
	Moving away from traditional, profit-maximizing business activities and repurposing towards socio-ecological well-being.	✓	✓	✓
Environment	Embrace eco-sufficiency and circular economy principles (reduce, reuse, recycle).	✓	✓	✓
	Environmental sustainability is a key value, hence seeks to minimize environmental damage.	✓	✓	✓
	Facilitating sustainable consumption behavior and patterns.	✓		✓
	Minimize the use of fossil fuels in favor of renewable energy.	✓	✓	✓
	Reduce unnecessary material/energy throughput, pollution, waste, and hazardous materials.	✓	✓	
Growth strategy	Seeks to maintain an appropriate size, i.e., adopts a non-growing strategy.	✓	✓	✓
Location	Seek to localize business activities and production.	✓	✓	✓
Marketing	Encourage sustainable consumption and avoid coercive or manipulative marketing strategies.	✓	✓	✓
Governance	Adopt a democratic governance structure.	✓	✓	
	Corporate management exhibits a commitment to the company's purpose and values.	✓	✓	✓
Product	Ensure product durability, reparability, and longevity.	✓	✓	
Production	Adopts circular principles (i.e., reduce, reuse, repair, recycle).	✓	✓	✓
	Conscious selection of suppliers based on social and environmental values.	✓		✓
	Eliminates or significantly reduces the use of hazardous materials/activities.		✓	✓
	Minimizes use of virgin materials, using recycled/renewable when possible.	✓	✓	✓

	Uses renewable energy and resources as much as possible.	✓	✓	
	Consider and exhibit respect for all stakeholders, human and non-human.	✓	✓	✓
	Encourage and facilitate sharing of products.		✓	
	Engage consumers and stakeholders in company initiatives.	✓		✓
Stakeholder relationships	Ensure mechanisms to avoid a prioritization of investor concerns over other stakeholders.	✓		✓
	Ensure transparency into company activities and performance.	✓	✓	
	Focus on and adopts mechanisms for collaborative value creation.	✓		✓
	Has a positive impact on stakeholders (both human and non-human).	✓	✓	✓
	Views the company as a part of the local community.	✓	✓	✓
Technology	Adopts simple or appropriate technologies and solutions.	✓	✓	
	"Democratisation of technology" (Nesterova, 2020, p. 5).			✓
	Knowledge sharing and "open licence production" (Khmara & Kronenberg, 2018, p. 725).	✓	✓	✓
	The company is oriented towards social and environmental well-being.	✓	✓	✓
	Demonstrating values and action toward solving social problems.	✓	✓	✓
Values	"Enable autonomy and capacity development" (Hankammer et al., 2021, p. 7).		✓	
	Encourage the sharing of resources and knowledge.		✓	✓
	Exhibit a shift in values towards sufficiency, simplicity, and collaboration.	✓	✓	✓
	Promote the support of degrowth values among employees.	✓	✓	
	Satisfy genuine human needs.	✓	✓	✓
	Supports environmental and/or social organizations.	✓		
Work and employment	Democratic/participatory workplace for employees.	✓	✓	✓
	Ensure meaningful and fulfilling employment.	✓		✓
	Exhibit care and respect for employees.	✓	✓	✓
	Promote work-life balance for employees.		✓	
	Reduced productivity.		✓	✓
	Reduced working hours.	✓	✓	✓

As demonstrated by Table 4, the papers provide significant overlap in their descriptions and criteria of a degrowth business. Note that while not all criteria are included in all three papers, this may be due to the scope of or descriptions provided by the papers rather than an indication of contradicting beliefs. A key aspect of degrowth business models emphasized by all papers is that a degrowth business must exist for purposes other than-profit maximization and adopt other measures of success. As stated by Nesterova (2020), the "logic of regarding environmental and social considerations as necessarily subservient, or merely supplementary, to the ultimate goal of profit maximisation appears to be what prevents the necessary radical transformation on the micro economic level from occurring" (p. 2). Hence, degrowth companies must de-emphasize profit maximizations, and make considerations as to "how profits are distributed and shared among stakeholders and whether they are placed above other interests" (Hankammer et al., 2021, p. 4; see also Khmara & Kronenberg, 2018). However, this is challenging in the current capitalist system due to dynamics around borrowing, shareholders, and interest payments (Nesterova, 2020).

Furthermore, the review outlines key changes needed concerning product design, production practices, marketing, governance, employment, and more. While the literature on sustainable business models was found to be limited in the context of degrowth, it appears that Khmara and Kronenberg (2018), Nesterova (2020), and Hankammer et al. (2021) all have been inspired by the principles of sustainability, circularity, and sufficiency. For instance, both Khmara and Kronenberg (2018) and Hankammer et al. (2021) directly recommend the adoption of circular economy practices and thinking as part of degrowth business models. While Nesterova (2020) does not explicitly mention circular economy as part of her framework, circular thinking is still present through proposals such as reducing waste and ensuring more efficient resource use. Furthermore, the literature review also provides important insights into the social criteria of a degrowth business which was notably lacking in the sustainable business model literature. This includes encouraging a change of values away from consumerism and towards sufficiency, equality, well-being, and other degrowth values, facilitating meaningful and democratic working lives, and ensuring that production seeks to meet genuine human needs.

Lastly, while all papers argue for degrowth companies to primarily adopt a non-growth or a-growth strategy, the review finds that there is a debate as to the role of company growth during a degrowth transition. Hankammer et al. (2021) state that "the degrowth literature emphasizes the need for and the existence of successful, non-growing organizations that

consider growth as unnecessary for achieving their specific corporate goals and as complicating the maintenance of corporate values" (p. 12). However, both Hankammer et al. (2021) and Khmara and Kronenberg (2018) debate whether the growth of degrowth businesses would be needed in a degrowth transition to replace more traditional corporations or whether this would then lead to an approach more aligned with the green growth discourse. In contrast, Nesterova (2020) states that a degrowth business should adopt a non-growth strategy and be "small where possible" (p. 8). It is, however, uncertain whether this reveals a disagreement among the authors, as Nesterova's (2020) paper focused on business models in a degrowth society and does not include the actual transition phase itself. Nevertheless, it is an element worth noting.

2.5. Synthesis

The literature review establishes the need for further discussion and contribution with regard to degrowth business models. While much of the discussion on corporate sustainability and sustainable business models fall within the mainstream discourse of green growth, degrowth forces companies to reject the growth ideology and address their environmental performance, their contribution to aggregate consumption and production, and their social performance on both a societal, communal, and internal level. As highlighted by the literature review on sustainable business models, circular business models, sufficiency-driven business models, non-growing companies, and not-for-profit companies, this means that degrowth goes beyond current conceptualizations of sustainable business models, which appear to be limited in their scope and/or primarily be examined in the context of pursuing green growth.

The literature review further provides insight into the current conceptualizations of degrowth business models and frameworks offered by Khmara and Kronenberg (2018), Hankammer et al. (2021), and Nesterova (2020). The review of these papers underlines the thesis' earlier conclusion that degrowth requires a significant transformation of a company's business model and practices. Notably, the review revealed significant overlap in the authors' understanding and conceptualizations of a degrowth business, such as moving away from profit maximization, adopting circular practices, embracing alternative governance structures, and seeking to create a meaningful and respectful workplace.

Nevertheless, the review also demonstrates the need for further research. Firstly, the review only featured three papers on degrowth businesses (i.e., Hankammer et al., 2021; Khmara & Kronenberg, 2018; Nesterova, 2020), which highlights the fact that the discussion on degrowth business models and frameworks is still in its infancy. This is also noted by the authors who call for further contributions on the topic. Secondly, the review also identifies

elements within a degrowth business model that needs further exploration. This includes discussions on individual companies' approach to growth and the handling of profits. For example, while the papers all state the need to prevent profit maximization and consider the distribution of revenues and profits, the papers do not provide any notable recommendations on ensuring or managing this in practice. Furthermore, Hankammer et al. (2021) also ask whether the degrowth criteria should exist within a hierarchy where certain elements are more important or fundamental than others. Lastly, Khmara and Kronenberg (2018), Hankammer et al. (2021), and Nesterova (2020), all state tensions and challenges in implementing degrowth strategies within the current capitalistic system. This is also true for Bocken and Short's (2016) paper on sufficiency-driven business models. However, the papers do not particularly discuss the type of operating environment needed to support a degrowth business. The papers simply note that a degrowth transition will require “a significant societal transformation on multiple levels, which includes and requires actions from other agents (e.g., consumers) and transformation in structures such as institutions (e.g., ownership, education) and relationships between those” (Nesterova, 2020, p. 8). While this is likely due to the scope and objectives of the individual papers, it does raise the need for future studies to expand on how to best support the implementation and development of degrowth businesses.

Closing by linking this back to this thesis' objectives and purpose, the thesis seeks to enhance our understanding of degrowth business models by exploring what they may look like if adopted in the future. The futures images of degrowth business models illustrate the opinions, hopes, and fears concerning the development of degrowth business models. They can help build upon and assess the level of agreement with the current conceptualizations of degrowth business models and frameworks, potentially validating the current research or identifying tensions and disagreements. Furthermore, the thesis also seeks to examine the drivers and barriers to implementing degrowth in business which may provide insight into the changing operating environment for degrowth businesses. Lastly, the futures images of degrowth business models may help guide decision-making in implementing degrowth business models and provide important frames for practitioners claiming to embrace degrowth as the term appears to gain interest from the corporate sustainability debate.

3. RESEARCH DESIGN AND METHODOLOGY

This chapter will outline the thesis' research design and methodology. First, the chapter will discuss critical realism as the research philosophy and how this affects the thesis' understanding of a business. It will then explain the purpose of future studies and futures images and how such studies can contribute to the degrowth literature before outlining the data collection and analysis process.

3.1. Research philosophy

The thesis adopts critical realism as its research philosophy. The use of critical realism in degrowth studies has been encouraged by scholars as both degrowth and critical realism focus on social critique, imagining a better world, and an interconnectedness between nature and social reality (see Buch-Hansen & Nesterova, 2021). Critical realism has also been proposed as a research philosophy in futures studies due to its acknowledgment of subjectivity and imperfect knowledge in research and being less rigid than positivism (see e.g., Aligica, 2011).

Focusing on the ontological implications, critical realism posits that reality takes place within three domains of reality; real, actual, and empirical (Bhaskar, 2016; Buch-Hansen & Nesterova, 2021). This allows for an objective reality existing independently of our perception and understanding of it as well as for social realities with transformable structures (Bhaskar, 2016; Buch-Hansen & Nesterova, 2021). In her paper, Nesterova (2022) discusses degrowth businesses and explains how critical realism allows for the analysis of how a firm relates to both the people within it and the world around it. Following critical realism, a firm can be considered "an agent in societies and economies whose agency derives from the agency of the humans involved" (Nesterova, 2022, p. 3). As agents, firms have the potential to help reproduce and transform societal structures, ideally transforming and changing the structures to those aligned with a more desirable society and future. (Nesterova, 2022) In other words, using critical realism allows for the positioning of firms as agents that can support the move away from a capitalist society towards a degrowth society, hence making their transition and future state of particular interest.

Epistemologically, it is essential to note that critical realism argues that our understanding of the world is limited and fallible. Concerning research, critical realism argues that "no single method can produce adequate and complete knowledge of reality" (Buch-Hansen & Nesterova, 2021, p. 6). Furthermore, researchers are considered actively engaged in the research, leading to the existence of subjectivity in the analysis. (Buch-Hansen & Nesterova,

2021) While subjectivity is regarded as a natural part of the research, it must be acknowledged by not establishing the study findings as universal truths (Nesterova, 2021). Hence, the thesis recognizes the existence of subjective decision-making in designing the study and constructing its conclusions.

3.2. Futures studies and the value of futures images

The thesis was further conducted as a futures study with an exploratory focus. In short, futures studies, or futures research, are about the systematic study of alternative futures (Bell, 2003). Futures studies are not about creating accurate predictions of the future but rather about generating knowledge about various alternative futures (Bell, 2003). The approach is closely related to and utilizes many of the same methods and techniques as the organizational practice of foresight. However, while foresight usually refers to the exploration of the future in order to generate information that aids organizational decision-making and current-day action, futures studies take a broader approach referring to a specter of academic or research studies examining alternative futures for a variety of objectives. (Sardar, 2010)

As stated by Dator (2019), “the future cannot be predicted because the future does not exist” (p. 4). Futures studies believe in the existence of multiple alternative futures with different levels of likelihood and desirability (Gall et al., 2022), as is reflected in the use of the plural ‘futures’ (Sardar, 2010). One way of categorizing these futures is as “potential, possible, plausible, probable, and preferable” (Voros, 2003, p. 16). Others have also included a category for ‘preposterous’ futures (see Gall et al., 2022). A fundamental idea in futures studies is that humans have the ability to shape, make decisions for, and adapt for the future - however, how we do so is simultaneously influenced by our understanding and perceptions of the future (Beers et al., 2010). Hence, investigating alternative futures creates possibilities and knowledge to help guide decision-making that shapes and steers the direction of the future (Beers et al., 2010).

Kuosa (2011) notes that this can be done in a variety of ways, describing futures studies as “a mosaic of approaches, objectives and methods” (p. 327). Futures studies can focus on objectives such as exploring and creating “interesting future images, visions and scenarios,” support planning and decision-making for the future, and contribute to “solving the great global questions of all humankind” (Kuosa, 2011, p. 328). Examples of techniques used in futures research include scenarios that seek to analyze future pathways and backcasting which focuses on identifying paths to more specific end-states or futures (Robinson, 2003).

This thesis focuses specifically on the construction of futures images, also known as images of the future. In their paper, Rubin and Linturi (2001) explain that an image can be

considered a mental tool representing an idea or imaginative description. These images help people interpret complex phenomena and the world around them, are developed through subjective beliefs, experiences, and knowledge, and may be personal or socially shared. Futures images are created when these images – i.e., these thoughts, beliefs, and interpretations – are focused on the future. (Rubin & Linturi, 2001) Hence, futures image can be defined as simple 'snapshots' or metaphorical representations of different imaginary future states of a real-world phenomenon held by an individual, group of individuals, or other social actors (Beers et al., 2010; Jokinen et al., 2022; Rubin & Linturi, 2001).

It is helpful to think of futures images in contrast to scenarios, another futures studies and foresight tool. Scenarios describe potential development paths from one point to a future point by relying mainly on factual data and analysis of interrelated variables (Störmer et al., 2020). They are useful in improving knowledge and reducing uncertainty, hence providing potential for better decision-making (Durance & Godet, 2010). In contrast, futures images do not provide any development paths or storylines (Nygrén et al., 2017). In other words, futures images are more concerned with describing and exploring different potential future states rather than the pathways to them (Mäkelä et al., 2020). Their construction tends to be a more open-ended process focused on individuals' ideas, emotions, and knowledge of the future, which is influenced by factors such as identity, socially learned knowledge, experiences, and values (Rubin & Linturi, 2001). As stated by Rubin (2013), futures images are “composed of beliefs, expectations, opinions, and assumptions of what the future might be like”, hence “formed from knowledge and flavoured with imagination” (p. 40). It is important to note that individuals may hold multiple and even contradictory images of the future (Rubin, 2013).

Futures images can play a particularly important role in social change (Mäkelä et al., 2020). Nygrén et al. (2017) state that futures images can “affect a person's or a group's choices both consciously and subconsciously, exerting a significant influence on human motivation” (p. 3). Emerging as expectations, hopes, or fears about the future, they can guide individuals to take actions that seek to realize more desirable futures while also trying to prevent the less desirable ones (Nygrén et al., 2017; Rubin, 2013). Hence, futures images can be thought of as guiding or motivating our individual and collective actions for the future (Mäkelä et al., 2020). Furthermore, Jokinen et al. (2022) state that engaging “with multiple possible futures and radical uncertainty, imagination and reasoning of a less formal kind play a significant role in developing sustainability practices” (p. 3), hence emphasizing the approach's role in the transformation towards a more sustainable future. Beers et al. (2010) further note that futures

images can be utilized to frame sustainability issues and persuade or detract people from certain perspectives or approaches, hence playing a role in social mobilizing and encouraging change.

As degrowth represents a fundamental transition of our societies, utilizing futures images provides a unique level of freedom and flexibility to discuss its implementation. Furthermore, creating positive futures images of a degrowth society can help gather understanding and support for the movement and help energize and deepen the debate for those already supporting it. Importantly, it allows for the discussion to move beyond criticisms of the current system and demonstrate different ways in which a life beyond capitalism is possible. For this thesis, examining and presenting different futures images of degrowth business models can create a greater understanding of what the operationalization of degrowth may look like and foster valuable discussions and insights into desirable features and potential limitations of degrowth businesses. While no paper has been identified utilizing futures images in the context of degrowth, the approach has still been used to discuss sustainability issues (see e.g., Jokinen et al., 2022; Marjamaa & Mäkelä, 2022). Furthermore, futures researcher Andy Hines focuses on futures images in his 2023 book “After Capitalism”, which explores different images for a post-capitalist future – including images influenced by degrowth (Finland Futures Research Centre, 2022). Hence, the use of futures images appears as a valuable addition and contribution to the degrowth literature by encouraging discussions and guiding actions for the future.

3.3. Data collection

The futures images presented in this thesis have been developed based on qualitative interviews with 13 individuals. Qualitative research, particularly interviews, allows the researcher to gain insights into the individuals’ emotions, perceptions, and opinions associated with the research phenomena (Billups, 2021; Kvale, 1983). Hence, the approach is well aligned with the construction of futures images, which relies on obtaining in-depth insights into participants’ subjective views, opinions, and worldviews.

In preparation for the interviews, an interview guide consisting of 16 questions was developed based on the research objectives and literature review (see Appendix A). The guide was divided into five categories. Sections one and two focused on getting to know the interviewees and their understanding of and attitude towards degrowth. Section three asked the interviewees to identify potential trends or factors that may enable or constrain the adoption of degrowth. This would provide context for participants’ reasonings and form the basis for the thesis’ horizon scanning. Horizon scanning is a method for detecting trends and signals that may influence the future developments of research phenomena (Rowe et al., 2017) and will be

further explained in the data analysis section. Section four asked participants to describe what a degrowth business model might look like in the future and discussed the impact of degrowth on different business model elements based on the literature review. Finally, section five gave an opportunity for closing thoughts and remarks.

While an interview guide had been developed, the conducted interviews were semi-structured. Adopting a semi-structured approach allowed for the utilization of pre-determined questions while still providing flexibility to add additional questions when wanting to explore certain topics further. By making the interview more conversational, semi-structured interviews can help provide more in-depth answers and make the interviewee feel more comfortable without the interviewer giving up control of the conversation. (Cachia & Millward, 2011) Hence, not all participants were asked all questions, either due to time constraints or to allow for deeper discussion into specific topics brought up in the interview. Furthermore, this also contributed to the interview guide evolving slightly as the interview process progressed to better address the elements important for the research question.

Interviewees were selected using judgment sampling as the selection focused on identifying respondents with specific types of knowledge who would be more likely to provide relevant and useful information and insights (Kelly, 2010). All interviewees were required to have prior knowledge of degrowth, hence several degrowth scholars and activists were invited to participate. However, when developing futures images, it is still important to have some “heterogeneity of knowledge, perceptions, and viewpoints” (Nygrén et al., 2017, p. 2). Hence, efforts were made to include interviewees with different backgrounds, nationalities, and experience levels, as well as a balance between genders. Some futures researchers focusing on topics such as sustainability or social change were also included in the study as they could provide insights into the potential trends and signals influencing the development of degrowth and potential for implementing degrowth businesses. There was also some snowballing as interviewees, invited individuals, and the thesis supervisors also provided suggestions for individuals to include. Eight interviewees were identified by the thesis author herself, while five were suggested by others. Regarding ethics, it should be noted that all interviewees were given verbal and written information about the thesis' aims, purpose, research process, and data management. They were also given the opportunity to ask clarifying questions and could withdraw from the study at any time.

The 13 interviews were conducted online between December 2022 - February 2023, lasted between 60-85 minutes, and resulted in approximately 178 pages of transcripts. Twelve of the interviews were conducted in English, while one was conducted in Norwegian with used

quotes subsequently translated. Table 5 outlines the background of the interviewees and the month and duration of their interviews.

Table 5: Participant overview.

Code	Category	Focus area	Country of residence	Gender	Years of experience	Time of interview	Duration of interview	Approximate number of transcribed pages
P1	Academic, activist	Degrowth and post-growth	Spain	Male	5+	December 2022	85min	18
P2	Academic	Corporate sustainability and degrowth	Germany	Male	5+	December 2022	70min	15
P3	Academic	Degrowth and post-growth	Australia	Male	15+	December 2022	70min	13
P4	Practitioner	Knowledge field	Netherland	Female	15+	January 2023	60min	14
P5	Academic, activist	Environmental social sciences	Finland	Male	10+	January 2023	60min	13
P6	Academic, activist	Post-capitalism and degrowth	Australia	Female	30+	January 2023	70min	14
P7	Practitioner, researcher, activist	Sustainability transitions	Australia	Female	15+	January 2023	65min	14
P8	Activist, academic	Ecological economics	Sweden	Female	15+	January 2023	60min	14
P9	Academic	Corporate environmental management	Finland	Female	20+	January 2023	60min	13
P10	Activist	Ecological economics	Switzerland	Female	10+	January 2023	60min	12
P11	Researcher	Foresight specialist	Finland	Male	20+	January 2023	70min	12
P12	Academic	Degrowth and post-growth	Spain	Male	15+	February 2023	65min	12
P13	Researcher	Knowledge management, post-growth	Australia	Male	45+	February 2023	75min	14

As seen in Table 5, seven men and six women were interviewed. Most of the individuals are academics due to degrowth being more well-known in academic circles. Furthermore, participants reside in various countries. While several participants live in a country other than their country of origin, all participants reside and/or are from wealthier countries. Lastly, the years of experience vary from around 5+ to 45+ years. Note that years of experience are not limited to expertise related to degrowth specifically but rather the individual's overall academic or professional experience.

A PEST analysis was further conducted to assess the knowledge areas of the interviewees. PEST is an analytical tool that assesses political, economic, sociocultural, and technological factors influencing a phenomenon (Warner, 2010). It is a simplified version of the PESTLE model, which also incorporates legal and environmental factors (Warner, 2010). In addition to the four PEST dimensions, the knowledge scopes of interviewees were also evaluated based on two additional dimensions focused on organizational understanding and sustainability, as these are central themes within the thesis. The purpose of this assessment was two-fold. Firstly, the evaluation helped ensure a broad scope of knowledge and expertise. Secondly, providing a broad scope of knowledge was required for the horizon scanning as it relies heavily on the findings from the interviews to identify trends and developments that may influence the development and implementation of degrowth moving forward. Table 6 provides the assessment results, outlining the interviewees' collective knowledge scope.

Table 6: Interviewees collective knowledge scope

Political knowledge	Economic knowledge	Sociocultural knowledge	Technological knowledge	Sustainability knowledge	Business/organizational knowledge
4 participants	11 participants	5 participants	4 participants	12 participants	9 participants

As Table 6 outlines, the interviewees collectively cover all six dimensions emphasized in this thesis. Note that an interviewee may have a multi-disciplinary background and contribute to multiple knowledge areas, hence the table sums to more than 13. Most participants contributed to an average of three different areas. While the legal and environmental dimensions have been excluded, it should be noted that there are participants with educational backgrounds within these areas.

Following the conclusion of the 13 interviews, it was determined that adding additional interviewees would not provide significant value-added insight and that the sample size was sufficient for the thesis. While the thesis is arguably limited by its sample size, there are other

futures images studies with sample sizes of less than 20 people (see e.g., Mäkelä et al., 2020). In their study, Mäkelä et al. (2020) – referring to the work of Guest et al. (2006) – states that data saturation can occur even when working with small sample sizes. This was also concluded in the works of Hennink and Kaiser (2022), who argued that data saturation in qualitative research can be reached even with a limited number of interviews.

Nevertheless, there are a few important limitations to note regarding the diversity of the interviewees. Firstly, all the interviewees are favorable to some form of post-growth narrative. Ten interviewees have favorable attitudes toward degrowth, two align more with the broader post-growth narrative, and one states to be agnostic towards growth. Furthermore, all agree with the fundamental critique of growth and GDP obsession and support the proposal of a transition toward a post-growth economy. While some interviewees offer criticisms of the degrowth discourse, none have a negative attitude or perceptions of degrowth overall. Hence, the futures images are more representative of those held within the degrowth or post-growth movement rather than a larger segment of society. Secondly, all interviewees are from wealthier countries, hence there are no participants from poorer countries in the Global South. As noted, a degrowth transformation will have different implications in richer countries than in poorer ones due to their different developments and roles in causing the climate crisis. As degrowth argues that reducing material and energy throughput is primarily needed in the Global North, including individuals only from wealthier countries is not problematic. However, it is important to acknowledge that the thesis hence centers on a degrowth transformation in wealthier countries and does not discuss the impact of degrowth in the Global South.

3.4. Data analysis

Following the conclusion of all interviews, the data was analyzed using thematic analysis. Thematic analysis is “a method for identifying, analyzing, organizing, describing, and reporting themes found within a data set” (Nowell et al., 2017, p. 2). The approach was selected as it is a rather flexible approach that can be utilized with different research paradigms and methods while still providing a systematic and rich analysis of the data (Nowell et al., 2017; Ozuem et al., 2022). The method has also been utilized in other research papers on futures images (see e.g., Jokinen et al., 2022), indicating compatibility between the approaches.

Nowell et al. (2017) state that “thematic analysis is a useful method for examining the perspectives of different research participants, highlighting similarities and differences, and generating unanticipated insights” (p. 2), which aligns well with the purpose of this thesis. It can help identify common patterns and themes presented within both individual interviews and

the overall set of interviews (Vaismoradi et al., 2013). Hence, rather than counting specific words and phrases, thematic analysis is more concerned with analyzing, understanding, and reporting ideas within the data (Ozuem et al., 2022).

The thematic analysis for this thesis was conducted in eight phases and has been largely inspired by the six-step process proposed by Braun and Clarke (2022). While there are different ways of approaching thematic analysis, they primarily focus on the generation of themes through the coding of data. For instance, Braun and Clarke's (2022) process for thematic analysis follows the following six steps: (1) becoming familiar with the data; (2) coding the dataset; (3) generating themes based on the codes; (4) revising the themes; (5) defining and describing the themes, and lastly; (6) reporting on the results. For this thesis, additional steps were added to conduct the horizon scanning and generate the futures images using the themes developed in the early stages of the analysis. For the sake of transparency and to improve the thesis' trustworthiness (Nowell et al., 2017), the data analysis process has been outlined below. While the process is presented linearly, note that thematic analysis is usually conducted non-linearly, as the researcher may have to revisit and review different steps throughout the process (Kiger & Varpio, 2020).

Phase 1: The initial phase focused on getting to know the data and is crucial for developing high-quality codes and themes (Braun & Clarke, 2022). This involved watching the interview recordings, proofreading and correcting the automatically generated transcripts, and actively re-reading the transcripts multiple times. While reading the transcripts, interesting aspects of the interviews were highlighted, and initial thoughts were written down.

Phase 2: The transcripts were then imported into the software NVivo for coding. Codes are the smallest units used in thematic analysis and are, together with themes, the key analytical outputs of a thematic analysis. The codes are determined by the researcher and should capture individual meanings or ideas related to the research questions. (Braun & Clarke, 2022) This requires reflection and active interaction with the data (Nowell et al., 2017). Braun and Clarke (2022) propose doing multiple rounds of coding to ensure more nuanced codes that can support deeper analysis. For the thesis, the initial coding round provided 127 codes. As the analysis progressed and the codes were reviewed, the number of codes increased to 136 as some codes were expanded and others contracted. Table 7 provides a few examples of codes from the data and associated quotes.

Table 7: Example codes with quotes

Code(s)	Example quote
Temporality, meeting genuine needs	<i>“But it could also lead to a situation where a company has to reconsider whether or the owners of the company have to reconsider whether its mission still exists because the value has been so well accomplished, and the goals have been so well satisfied already.” (P11)</i>
Fairer wages	<i>“I mean everybody should get the salary he or she needs. And as I said before, you can even talk about housing [...]. But then also, maybe even more considering if there is a person living alone, having a disability, having to feed a kid alone, you know, all these things should matter in the way we compensate people...” (P2)</i>
Not-for-profit	<i>“... my dream would be for the government to sort of say, ‘OK, we want a not-for-profit economy, and to get there, all for-profit economies have the next three years to change, to transition.’” (P8)</i>
Ban on marketing	<i>“There are some cities that have stopped this kind of public advertising, for example, Grenoble. And I know the degrowth people have been involved in pushing it. It is quite clear that advertising is a problem in relation to boosting new needs. So, I think the simple answer is no, you cannot have advertising in a degrowth society.” (P10)</i>

Phase 3: The third phase focused on generating themes based on the identified codes. A theme is “a pattern of shared meaning organized around a central concept” (Braun & Clarke, 2022, p. 96). While codes are small analytical units representing individual or singular ideas, themes encompass broader, more complex, and shared meanings in the data. Themes are constructed based on the codes and research questions and can be generated using either an inductive or deductive approach. (Braun & Clarke, 2022)

For this thesis, the themes were generated deductively. While the dataset was initially viewed without any predetermined framework, the coding and theme generation were influenced by the structure of the interview guides and the conducted literature review. According to Nowell et al. (2017), a deductive approach can provide “a more detailed analysis of some aspect of the data but tends to produce a less rich description of the overall data” (p. 8). For this thesis, a deductive approach helped focus the discussion and themes on implications for business models rather than engaging in a broader and more complex macroeconomic exploration.

Phase 4: The codes and themes were then reviewed and redefined to ensure an accurate representation of the meanings found in the dataset. This is an important step as it may reveal flaws or inconsistencies in the initial coding and generation of themes and the need to remove, combine, or develop new codes and themes. This phase is also important for the researcher to understand how the different themes relate. (Nowell et al., 2017)

Phase 5: After reviewing the themes, a detailed analysis was written for each theme, with names and definitions provided for each theme. The themes were not considered final until

the submission of the thesis. In the end, a total of 19 themes were generated and defined. Table 8 provides examples of different themes with associated codes.

Table 8: *Example of themes with associated codes.*

Values	Marketing	Organizational types
<ul style="list-style-type: none"> • Adding positive value • Rejecting growthism • Conviviality • ... 	<ul style="list-style-type: none"> • Ban on marketing • Regulate marketing • Impacts of marketing • ... 	<ul style="list-style-type: none"> • Not limited liability firms • Cooperatives • Not-for-profit • ...
Products	Production	Employment
<ul style="list-style-type: none"> • Circular design • Less useless products • Reparability • ... 	<ul style="list-style-type: none"> • Circularity • Suppliers • Production cycles • ... 	<ul style="list-style-type: none"> • Reduced working hours. • Fairer wages • Meaningful employment • ...

Figure 3 further illustrates the different themes and how they relate. The circular map represents the specific business model elements (inner ring) and the elements that may influence the individual's perception of a degrowth business model (outer ring). For instance, the theme 'organizational types' captures discussions about the existing organizational forms that can or cannot align with degrowth. Therefore, it is placed in the outer ring as it likely impacts the conceptualizations of degrowth business models and what they can and cannot be. As indicated by the arrow, those themes are then used to construct the futures images, which have been categorized as 'positive' or 'negative'. These themes also include direct responses describing positive or negative images of the future.

The outer circle is likely to influence the interviewees' responses related to the themes in the inner circle.

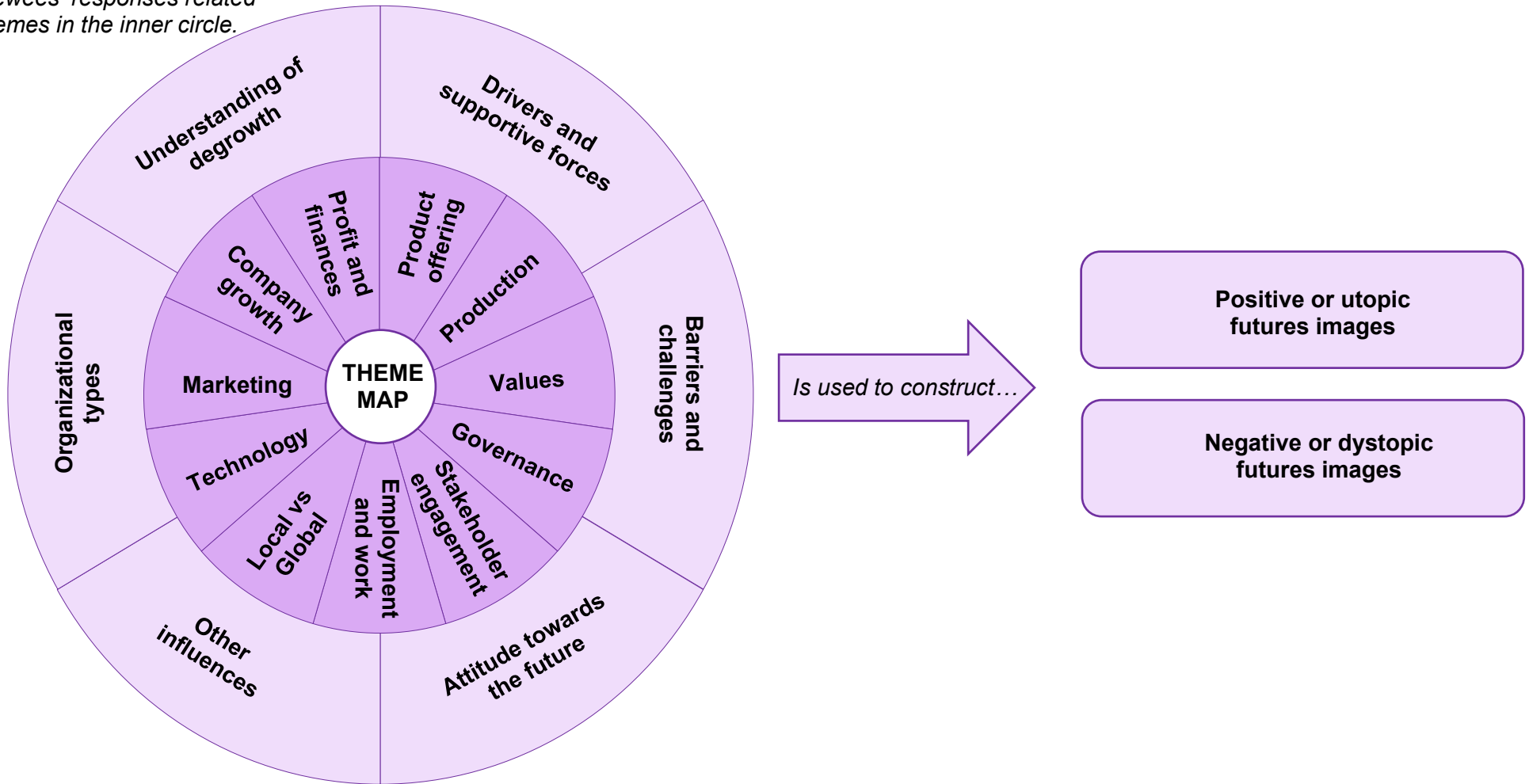


Figure 1: Theme map with relationships.

Phase 6: Next, a horizon scanning was conducted to assess the trends and signals that may influence the adoption of degrowth business models. Horizon scanning can be understood as “the systematic outlook to detect early signs of potentially important developments” (European Commission, 2016, p. 4). The purpose is to identify possibilities for change during the time horizon presented in the research project. This can include mega-trends (major global trends), trends, and other signals that can influence the development of research phenomena. It also includes identifying weak signals, which are seemingly unimportant or small changes that may evolve to become influential. (European Commission, 2016) While horizon scanning is usually an extensive examination of trends, emerging issues, potential signals, and interdependencies (European Commission, 2016), the scope of this thesis was limited to the trends and signals identified in the interviews. For this thesis, the different influences identified by the interviewees were analyzed and assessed using the PESTLE framework, i.e., using political, economic, sociocultural, technological, legal, and environmental dimensions.

Phase 7: Following the horizon scanning, the next step was constructing the futures images. To do so, a template was developed to help assess and outline the key elements and descriptions of the various images. The template is outlined in Table 9 and is inspired by a framework developed by futures researcher Andy Hines for his book “After Capitalism” (see Finland Futures Research Centre, 2022). Note that the template examines more than only the business model itself, as it was clear from the interviews that the business’ societal context and external operating environment would significantly impact the futures images.

Table 9: *Template for futures images analysis*

Futures Image Analysis Template	
<i>Title</i>	A descriptive title for the futures images.
<i>Key interviews</i>	Which interviews are mainly contributing to the futures image?
<i>Key ideas and features</i>	What are the key ideas and features of this image? How does it separate from the other?
<i>Level of change</i>	Does the image perpetuate the status quo or require a significant or radical transformation?
<i>Utopic or dystopic</i>	Does the image portray a desirable or undesirable future?
<i>Key drivers</i>	What are the key drivers supporting or enabling this future?
<i>Potential pathway</i>	Can anything be said about how such a future may unfold?
<i>Description of business model in this future</i>	What would a degrowth business model look like in this futures image?

Phase 8: The final stage of the analysis is write-up the findings. When writing up the analysis findings, it is important to “provide a concise, coherent, logical, nonrepetitive, and interesting account of the data within and across themes” (Nowell et al., 2017, pp. 10–11). To ensure accurate interpretation and representation of the interviewees' opinions – and hence improve the overall trustworthiness of the thesis – this stage also included sending an early draft of the thesis to the interviewees for feedback on the quotes and ideas attributed to their interview. Note that some participants declined this opportunity during the initial interview.

4. FINDINGS

This chapter outlines the thesis findings starting by outlining the results of the horizon scanning, i.e., discussing the drivers and barriers for adopting degrowth in business. Then, the chapter will present two utopic and two dystopic futures images constructed based on the interviews. The chapter then concludes by discussing the implications of the four futures images and their alignment or disagreement with the existing literature.

4.1. Horizon scanning: drivers and barriers for degrowth business models

Examining the trends and signals influencing the adoption of degrowth is important for various reasons. First, it allows for insights into the challenges and barriers associated with implementing a degrowth business model. This is not only important to understand the current and potentially future obstacles to implementing degrowth business models, but also to facilitate a more nuanced discussion of a degrowth business' operating environment. Secondly, it provides further context for understanding the constructed futures images.

Based on the analyzed data, there are trends, signals, and weak signals supportive of the development of degrowth businesses. However, the findings also revealed the capitalist system and growthism as critical challenges to adopting degrowth, creating significant path dependencies and structural challenges. This section will summarize the findings of the horizon scanning using the PESTLE framework. While Table 10 provides a brief summary of each dimension, a more extensive list of all identified trends and signals is provided in Appendix B. It should be noted that many of the trends and signals do not occur directly under the banner of degrowth but still contribute towards some of its values and objectives. Furthermore, while the dimensions are discussed separately, they should be considered somewhat overlapping and interconnected.

Table 10: Potential drivers and barriers for degrowth business models.

Dimension	Drivers and supportive elements	Barriers and challenges
<i>Political</i>	<ul style="list-style-type: none"> Existing debates around policies featured in the degrowth discourse. Increasing acknowledgment of GDP limitations. Acknowledgment of post-growth discourses. Potential for progressive change. 	<ul style="list-style-type: none"> Critiques do not result in political action. The capitalist system, its structures, and path dependencies. Naturalized view on capitalism and economic growth. Power imbalances and dynamics. Political polarization and far-right movements.
<i>Economic</i>	<ul style="list-style-type: none"> Increased interest in alternative growth discourses. 	<ul style="list-style-type: none"> The capitalist system, its structures, and path dependencies.

	<ul style="list-style-type: none"> • Increasing acknowledgment of GDP limitations. • Existence of alternative organizations and companies. • Companies want to do things differently. • Expanded understanding of business. 	<ul style="list-style-type: none"> • Current business logic (e.g., profit-seeking and shareholder thinking).
<i>Social</i>	<ul style="list-style-type: none"> • Changing social values. • Activism. • Increased environmental concerns. 	<ul style="list-style-type: none"> • The capitalist system, its structures, and path dependencies. • Consumerism and materialistic lifestyles and values. • Consumption is tied to social status, success, and identity.
<i>Technological</i>	<ul style="list-style-type: none"> • Digitalization and automatization. 	
<i>Legal</i>	<ul style="list-style-type: none"> • Countries being sued for lack of environmental action and protection. • Stricter regulation on business activities (e.g., European Green New Deal). 	<ul style="list-style-type: none"> • Legal structure prevents adopting alternative governance structures, pay schemes, and more.
<i>Environmental</i>	<ul style="list-style-type: none"> • Worsening crises increases pressure for climate action. • Resource bottlenecks. 	<ul style="list-style-type: none"> • Worsening crises leading to survival thinking and lack of long-term planning.

4.1.1. Political dimension

As shown in Table 10, the key supportive political trends and signals include political debates of policies and proposals included in the degrowth discourse and opportunities for progressive change. For instance, the political discourse in many countries includes debates on policies such as universal basic income, shorter working weeks, and climate policies. A clear example is the critique of GDP which has led to direct action in several countries, such as New Zealand (P3). Furthermore, institutions like the European Commission and the IPCC have increasingly acknowledged post-growth narratives (P6). Overall, these political debates can support the incorporation of degrowth values into political decision-making and enhance its influence on future policies.

The political barriers center around the fact that the current political system is built to perpetuate economic growth and has established systems and structures dependent on continued growth. First, politicians and government officials are socially taught that economic growth is important to support a thriving society and hence is a positive and even natural way to manage the economy. Hence, there is a well-established naturalized view of economic growth within the political systems (P1). In addition, governments have strong incentives to promote economic growth to improve public budgets (P3, P9). Furthermore, there are wealthy and politically powerful people who benefit from the continuation of capitalism and are, therefore,

unlikely to help facilitate a change toward a post-capitalist society (P12). Hence, there are significant factors preventing even the consideration of alternative systems (P1).

Another critical barrier to degrowth is the trends associated with political polarization, fascism, and far-right movements, as demonstrated by the ‘The Make America Great Again’ movement in the USA and politicians such as Marine Le Pen in France and Giorgia Meloni in Italy (P1, P8, P12). There is a fear that fascist and authoritarian forces will continue to increase their powers as social and environmental crises continue to evolve. Fascism as a political ideology is characterized by ultranationalism, anti-liberalism, and authoritarianism (Parro, 2022), directly opposing some of the values highlighted by degrowth, such as democracy. This is also the case for eco-fascism, where ultranationalism and anti-immigrant ideologies are combined with ecological concerns to achieve reduced energy throughput and environmental protection without concerns for equality, democracy, and social well-being (Campion, 2021).

4.1.2. Economic dimension

Regarding the economic dimension, the key drivers are increased interest in alternative economic discourses and companies wanting to become more sustainable. In addition, to the increasing acknowledgment of GDP criticisms, there has also been a general interest in post-growth narratives such as degrowth. While this interest has been particularly evident in the academic sphere (P3), there are also weak signals indicating a broader interest in alternative discourses and a growing skepticism toward capitalism (P8, P10). For instance, P8 stated that there is a:

“...growing awareness of these models, of different economic models. And not only that they exist. Not only the awareness that they exist and that we can organize the economy in different ways - and business in different ways - but also the importance of them. That they can actually help solve our problems.” (P8)

This increasing interest in post-growth narratives and willingness to criticize the current economic system is important for mobilizing people within the movement, pushing for political change, and enabling a degrowth transition. However, P3 notes that degrowth is still far from being an agreed-upon vision for the future.

The second key economic driver or trend is companies wanting to make a positive impact beyond profits and embracing non-economic values (P1, P4, P5, P7, P9, P10). Firstly, there are already companies, organizations, and initiatives trying to support social and

environmental well-being in ways that align with degrowth, such as enhancing the lifetime of products, focusing on local community engagement, and adopting alternative business models. This includes local farmers' networks, repair cafes, tool libraries, social cooperatives, and employee-owned entities. Secondly, even large corporations are increasingly acknowledging and seeking to address the environmental impacts of their operations and the operational and strategic risks of continuing with the current trajectory (P4). Hence, companies increasingly embrace sustainability values, at least on paper (P9). However, this is not to say that corporations are currently moving towards degrowth, as few companies are utilizing reduced production or limited growth as a strategy for sustainability (P10). However, while this may align more with the green growth narrative, it should still be acknowledged as a potentially weak signal (P9). Lastly, P11 further argues that our perception and understanding of business will evolve over the coming decades. Expanding our perceptions and knowledge of business can support the development of businesses that align with degrowth values and principles that our current limited understanding of business may prevent.

The analysis further revealed capitalist structures and business logic as the key economic barriers. Capitalism has been the dominant economic model for a few hundred years, creating significant path dependencies and structural incentives for economic growth. In the current economic system, degrowth companies must adhere to the same rules, structures, and systems created to encourage and perpetuate economic growth. For instance, they would face competition from more aggressive corporate businesses and challenges associated with rent, property rights, inflation, maintaining profits, availability of funding instruments, and more (P3, P5, P10, P11). The economic barriers presented by the current structures are illustrated in the below quote outlining the contradictions between the capitalist way of operating and those proposed for a degrowth business model:

“(...) if you try to have a degrowth business model now, you are going to be bankrupt. So yeah, it is a sort of corporate suicide now to call for, let us say, sufficiency in production or consumption, cause the name of the game is competition based on market share.” (P5)

Hence, current business logic does not align with degrowth. This is demonstrated in various ways. For instance, people are taught that companies exist to create financial value and growth (P9, P13), that people should be financially compensated for investments and innovations (P1), that reduced financial results mean failure (P9), and there is arguably a

normalization of corporate and individual greed (P4). In other words, there exist multiple drivers within businesses pushing for the continuation of wealth accumulation and profit maximization, as this is how capitalism defines the purpose and objective of companies. Hence, as stated by P6, adopting degrowth in business is challenging as “you are asking businesses not to be businesses at all in the way that businesses really see themselves”.

4.1.3. Social dimension

Regarding the social dimension, a key driver appears to be changing social values, as demonstrated by the growing interest in environmental and social sustainability and the openness to criticize existing structures and systems. Interviewees report seeing social changes where the younger generations may be more willing to challenge the capitalist status quo (P8), as well as people becoming more environmentally conscious and interested in post-capitalist discourses (P3, P10). People are also advocating for better working conditions and shorter working weeks (P13). There are simple living communities and individuals who embrace minimalist lifestyles (P3). Furthermore, the last few years have seen large-scale climate activism, such as Fridays for the Future and The Last Generation (P1). In other words, discussions, debates, and pressures for environmental action and a more sustainable future are happening at various levels of society. Although all of these may not explicitly use the term degrowth, they share values, ideas, and principles consistent with degrowth.

Nevertheless, also in this dimension, the capitalist structures and values are identified as key barriers, particularly through the naturalized view of capitalism and the materialistic lifestyles and consumer behaviors it promotes. As stated by P7, “the biggest win of capitalism is that it killed our imaginaries”. Capitalism has effectively stifled our ability to think about and imagine different ways of organizing our society, limiting our ability to develop solutions and possibilities for the future. Moreover, excessive consumption is needed to drive economic growth, and hence the current value system focuses on increased consumption and material well-being (P3). Consumption goes beyond meeting human needs to satisfying artificially created wants and has become a way of expressing one’s identity, demonstrating status and success, and creating feelings of contentment and fulfillment (P1, P3, P5, P9, P13). However, this consumption is tied to an environmentally damaging and fossil fuel-dependent economy. While individuals can take some independent action to minimize their consumption, they still depend on and are influenced by the systems and structures around them. Hence, a degrowth transition requires both a reinvention and reorganization of the economy and our social values, identities, and perceptions (P3, P5).

4.1.4. Technological dimension

The technological dimension was the least discussed dimension. Digitalization and increased automatization were mentioned as trends contributing to better knowledge-sharing and cheaper domestic production (P11). Furthermore, the potential of artificial intelligence influencing the workforce was also mentioned, but without commenting on the specific impacts of this trend (P10). Hence, this horizon scanning is significantly limited in providing insight into the technological trends and developments that can support or challenge degrowth.

4.1.5. Legal dimension

Moving on to the legal dimension, the key legal trend that may help support a degrowth transition is utilizing the legal system to prevent and penalize environmentally harmful behavior. This includes people suing their governments for failing to meet environmental promises, such as those outlined in the Paris Climate Agreement (P2). Furthermore, new legal developments directly impact how companies can do business, such as bans on greenwashing and requiring better information about a product's environmental impact (P4). These regulations will likely become stricter with the implementation of the European Green New Deal, imposing further legal constraints on economic activity and business practices (P4).

However, current legislation may also act as a barrier to degrowth by preventing the adoption of certain degrowth policies and business model elements. For instance, P4 mentioned how accounting rules make adopting product-as-a-service models challenging and how the tax authorities encourage salary systems based on hierarchical positions. Similarly, P7 mentioned legal challenges associated with establishing cooperative structures and legislation preferring certain ownership structures. Hence, regulations and legal frameworks also support the continuation of current practices and traditional businesses, making it challenging to establish degrowth businesses that conform to democratic governance and ownership structures most aligned with degrowth values.

4.1.6. Environmental dimension

Focusing lastly on the environmental dimensions, participants have identified the worsening of the climate crisis itself as a potential driver for change (P4, P5, P7, P8). As evident by recent IPCC reports and echoed by several participants, we are currently on track to experience significant climate warming over the coming decades. The effects of climate change and planetary overshoot will become increasingly evident, for instance, through a loss of biodiversity, extreme weather, forced migration, increased inequalities, local conflicts, supply

chain disruption, and more. From an operations side, these crises will contribute to resource bottlenecks and shortages, forcing companies to reconsider and reevaluate their activities and material use. For instance, the critical metals industry is already questioning how to meet its exponentially rising demand as the supply of these metals diminishes (P4).

However, worsening climate crises will also have social or mental effects on our society. While these developments will result in significant devastation and suffering, they may also create room for radical change by facilitating a greater sense of urgency and pressure for climate action (P4, P5). Furthermore, it may change social values and practices by making people question their own lives and habits. This was, for example, evident during the COVID-19 pandemic, with people choosing not to go back to business as usual but rethinking their working arrangements and environments (P7). However, the devastating effects of the worsening crises can also cause people to enter a survivalist mode that makes long-term thinking challenging as people struggle to cope with their current situation (P7).

4.1.7. Further remarks

A degrowth transition requires a fundamental change in all aspects of society, from the legal system to business logic and even in how social identities and status are formed. Many of these challenges are associated with overcoming the structures and dependencies established by the capitalist system and will likely continue to create significant obstacles for the implementation of degrowth moving forward. Furthermore, the horizon scanning also reveals potential future obstacles, such as far-right and populist movements and feelings of hopelessness in the face of crises. Nevertheless, the horizon scanning also identifies trends, signals, and weak signals aligned with the degrowth discourse, such as minimalist and sufficiency-based initiatives, changing social values, and increased environmental concerns, indicating that a degrowth future is not impossible.

It is important to note that the horizon scanning is limited to elements identified in the interviews. While the interviewees hold a broad scope of knowledge, deeper analysis and discussion are needed for each area, particularly the technological dimension. In addition to more extensive and comprehensive research, there may also be some benefit in conducting more location-specific studies as the PESTLE dimensions will likely be influenced by the cultural and geographical context in which it is studied. For instance, labor dynamics, political influences, and social norms may play different roles in Finland compared to China or the United States. Furthermore, the trends and signals may also interrelate and influence each other, potentially in unexpected ways, raising the need to examine interrelated trends and signals.

4.2. Four images of the future

The analysis led to the construction of four different futures images. As illustrated in Figure 2, the first two futures images present utopian versions of the future where degrowth business models operate as non-business organizations in a non-monetary economy or as companies in a not-for-profit economy. In contrast, the last two futures images of capitalist degrowth and a degrowth dictatorship represent dystopias in which degrowth is used to provide lip service for corporate sustainability resulting in the continuation of current practices or where an economic contraction is achieved through authoritarian means.

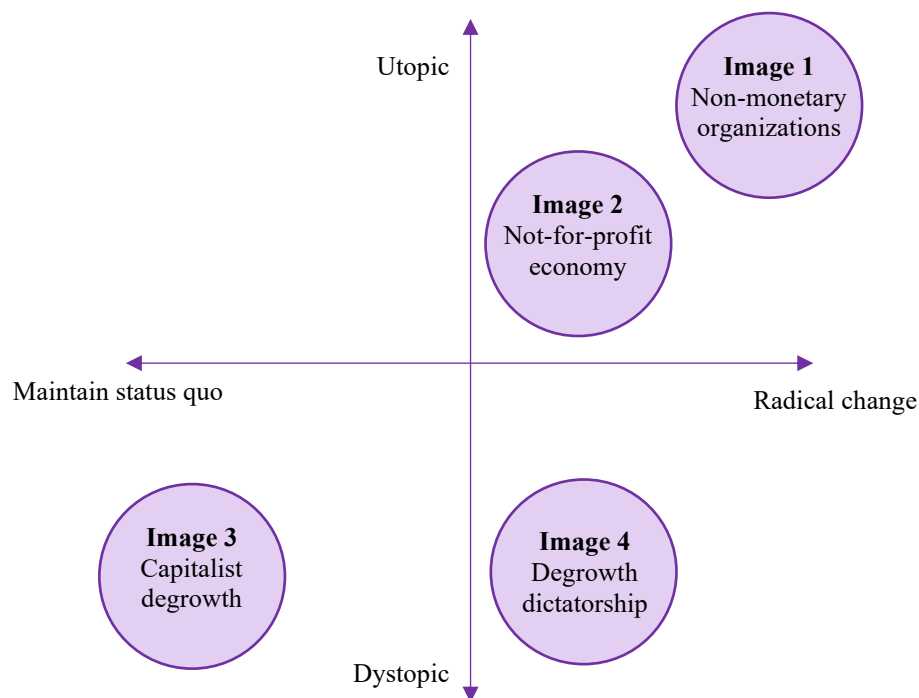


Figure 2: Map of futures images based on desirability and level of change needed.

In addition to their level of desirability, Figure 2 also illustrates that the futures images vary depending on the level of change needed to realize the futures images. Note that the figure is for illustrative purposes only and that the placements of the futures images represent the thesis author's subjective assessment.

The focus on utopian and dystopian futures images made it possible to assess desired and undesired elements of a degrowth business model while also highlighting similarities and differences in the interviewees' opinions, perceptions, hopes, and fears around the operationalization of degrowth in business. However, it is important to remember that the futures images are not predictions of future degrowth business models, nor will they match the

opinions of everyone within the degrowth and post-growth movements. In reality, there will exist an even broader range of degrowth futures images. This was even evident in the interviews where some participants (P2, P9, P11) mentioned different dystopian futures characterized by excessive, uncontrolled, or isolationist forms of degrowth.

Although the purpose of the futures images was originally to provide a micro-level exploration, there is still a need to acknowledge the macro-economic and societal context in which the degrowth business models exist. A key finding of the analysis was the importance of the larger societal and macroeconomic conditions that ‘frame’ the futures images of degrowth business models, i.e., the operating environment of the degrowth businesses in the different futures images. The larger contexts and conditions are important both in understanding the evolution and constraints presented in the different futures images, and help illustrate the larger societal transformation needed to support the implementation of degrowth business models. Hence, Table 11 outlines the PESTLE context for each of the four futures images.

Table 11: PESTLE analysis of the constructed futures images.

Dimension	Communal and non-monetary forms of production	Not-for-profit organizations in a post-capitalist society	Capitalist corruption of degrowth	Degrowth dictatorship
<i>Political</i>	<ul style="list-style-type: none"> Democratic and cogoverning society focusing on community production and collective decision-making. 	<ul style="list-style-type: none"> Democratic and community-centered society. 	<ul style="list-style-type: none"> Weak democratic society as a continuation of the current system. 	<ul style="list-style-type: none"> Authoritarian or totalitarian dictatorship.
<i>Economic</i>	<ul style="list-style-type: none"> Non-monetary economy. Post-carbon economy. Production focused on needs. 	<ul style="list-style-type: none"> Not-for-profit economy. Post-carbon economy. Production focused on needs. 	<ul style="list-style-type: none"> Capitalist economy. Production for exchange. Fossil fuel-dependent economy. 	<ul style="list-style-type: none"> <i>Unspecified</i>
<i>Social</i>	<ul style="list-style-type: none"> Organized in collectively-sufficient and networked communities. Embrace social and environmental sustainability. 	<ul style="list-style-type: none"> Embrace social and environmental sustainability. 	<ul style="list-style-type: none"> Consumerist and materialistic lifestyles. 	<ul style="list-style-type: none"> Society must follow the rules set by the ruling power.
<i>Technology</i>	<ul style="list-style-type: none"> Utilizes convivial and sustainable technologies 	<ul style="list-style-type: none"> Utilizes convivial and sustainable technologies 	<ul style="list-style-type: none"> Adoption of high-tech fixes. 	<ul style="list-style-type: none"> <i>Unspecified</i>
<i>Legal</i>	<ul style="list-style-type: none"> Significant shift away from capitalist structures. Commoning, i.e., no private property. Compacts are collectively negotiated within and between communities based on degrowth values. 	<ul style="list-style-type: none"> Legal structures preventing harmful activities. Legal structures preventing for-profit companies. 	<ul style="list-style-type: none"> Some limitations on corporate action, but mainly a continuation of the current system. 	<ul style="list-style-type: none"> Strict governmental regulation on company activities.
<i>Environment</i>	<ul style="list-style-type: none"> The natural environment is supported and regenerates as communities live within the planetary boundaries. 	<ul style="list-style-type: none"> The natural environment is supported and can regenerate as society lives within the planetary boundaries. 	<ul style="list-style-type: none"> Economic activity continues to damage the environment and non-human life, leading to worsening climate change, species extinction, and environmental degradation. 	<ul style="list-style-type: none"> The natural environment can regenerate as society lives within the planetary boundaries.

Table 11 outlines the operating environment of the degrowth business models and, notably, the type of economy in which they exist. As seen in Table 11, the first three futures images exist within different economic systems, influencing the types and forms of business models possible.

4.2.1. Utopic future 1: Communal and non-monetary forms of production

The first constructed futures image focuses on a future in which businesses have transformed into a series of small, localized, and communal forms of production, corresponding with a larger transition towards a non-monetary economy. The image is based on the idea that businesses and the monetary economy are inherently capitalist and are, therefore, incompatible with a degrowth transformation (P1, P6). This means that trade and exchanges are no longer driven by money, but that activities and exchanges are decentralized and negotiated within and between local communities. Society is oriented towards values such as community, autonomy, conviviality, democracy, horizontal cogoverning, and socio-ecological well-being. Importantly, there is an emphasis on mending humans' relationship with nature, respecting the planetary boundaries, and supporting the regeneration of nature.

While businesses are made obsolete and considered a feature of the past, there is still a need to organize production within and between communities. In this future, collective production focuses on meeting the genuine needs of the community in a way that is equitable, sufficient, and environmentally sustainable. This is supported by degrowth organizations in the form of community-based modes of production, commons-based peer production, home-based local production, and other alternative and new forms of organizing that embrace degrowth values. Table 12 outlines the features of a degrowth organization within this futures image.

Table 12: *Degrowth organizational model for utopic future 1 (communal and non-monetary forms of production)*

Element	Description
<i>Values (examples)</i>	Democracy, anti-capitalist, ecological and social sustainability, knowledge-sharing, transparency, sufficiency, conviviality, and social relationships.
<i>Product</i>	<ul style="list-style-type: none"> • Satisfies a genuine human need. • Product design based on ecological sustainability and circularity principles.
<i>Production</i>	<ul style="list-style-type: none"> • Efficient use of resources and energy. • Production seeks to meet only needed demand. • Circular production practices.
<i>Local vs global</i>	<ul style="list-style-type: none"> • Primarily local organizations. • Some global exchange and collaboration are allowed as collectively agreed.
<i>Governance</i>	<ul style="list-style-type: none"> • Communally co-governed based on commoning and sharing. • Democratic and participatory.

<i>Work and employment</i>	<ul style="list-style-type: none"> • Respect for humans' capacity to work (reduced working hours). • Personal and communal values determine how goods and services are produced. • Non-wage labor or communal activities. • Seek to provide meaningful work.
<i>Stakeholder engagement</i>	<ul style="list-style-type: none"> • Collaborative value creation. • Collective decision-making, negotiations, and sharing of resources. • Respect for all stakeholders, human and non-human.
<i>Technology</i>	<ul style="list-style-type: none"> • Utilizes convivial and sustainable technologies. • Knowledge-sharing and open resources (e.g., no patents) • Reduce unnecessary use of energy and resource-intensive technologies.
<i>Company growth</i>	<ul style="list-style-type: none"> • No companies or businesses. • Primarily small, non-growing organizations or communal activities that service and provide for small communities. • Larger or multi-community organizations in relation to specific industries.
<i>Marketing</i>	<ul style="list-style-type: none"> • No public or traditional marketing as production is co-organized within communities.
<i>Profit and finances</i>	<ul style="list-style-type: none"> • No profit or finance. • Non-monetary economy.

As seen in Table 12, a degrowth organization in this future focuses on social provisioning and producing products or services that the community needs. Combining this with the emphasis on local embeddedness and community, P6 imagines a future in which people within smaller communities democratically co-organize to negotiate and discuss their needs, for instance, by everyone creating lists of household needs and communally deciding how to best meet these needs in a sufficient, equitable, and environmentally sustainable manner. The important point is that 'needs' are not established by a state or governing authority but are tailored to individual communities and households. Horizontal governance through community discussion and decision-making is also used to determine the best way of maintaining sustainable levels of total production and consumption, for instance, by facilitating community sharing of certain products and services (e.g., tool libraries and community gardens).

Degrowth organizations further embrace sustainable and circular product design by improving product durability, reparability, and longevity, as well as avoiding planned and perceived obsolescence. Efforts are also made to reduce the environmental impact of production by incorporating sufficiency, circularity, ecological sustainability, and other degrowth values as core operating principles. In practice, this means avoiding unnecessary production and material throughput, ensuring efficient use of resources, minimizing waste, and minimizing the use of non-renewable or hazardous materials and processes. This is also a post-carbon future, hence the organization only utilizes renewable energy.

While production is primarily local and focused on self-sufficiency, there are still fruitful exchanges and interactions with other communities, both regionally and globally. For

instance, exchanges are negotiated between communities to obtain needed products that cannot be effectively produced locally. There may be factories, salt basins, fishing lakes, or specialized hospitals that serve and are organized for a range of communities (P6). Hence, there will be instances where larger organizations serving multiple communities are required to ensure energy and resource efficiency. However, the global exchange of physical goods is nonetheless severely reduced due to environmental concerns, and there is a greater emphasis on global interactions in the form of knowledge sharing (P1, P6). As there are no patented ideas or technologies, communities, and organizations openly share their ideas and learn from other communities and their practices. In other words, international relationships, collaborations, and exchanges still exist, though they are more knowledge-based and culturally rich and focus on minimizing the environmental impact of trading goods (P6).

Focusing on technology, there is a more considerate and thoughtful application of technology that considers the resources, materials, and energy needed to produce and sustain them. As stated by P1, we need to consider the purpose behind innovation and technology, not simply reject it. P6 argues that cogoverning communities must adopt convivial technologies, which has been associated with the degrowth movement in papers such as Vetter (2018). Vetter (2018) suggests evaluating technologies based on their “relatedness, adaptability, accessibility, bio-interaction and appropriateness” (p. 1778). Hence, a degrowth organization focuses more on conscious and appropriate technology adoption rather than simply focusing on low- or high-technology. In other words, this future sees diverse applications of technology depending on the ecological and social context, specific industries, and community needs. As argued by P6, there are a lot of “sophisticated technologies which are really efficient and are really useful for the environment and for human beings”. However, P5 emphasizes that there must still be a move away from resource-intensive and non-renewable technologies.

Furthermore, social relationships are crucial to degrowth organizations in this future. Degrowth organizations are embedded within their local community, who have a significant say in their activities and practices. As there is no private property - but rather a focus on commoning and sharing - the use of land and resources is negotiated within and between communities. Degrowth organizations are, therefore, dependent on and maintained through the acceptance and legitimacy received from the community. In practice, this is facilitated and supported by adopting democratic and participatory governance structures and alternative forms of ownership, such as being communally owned and controlled.

This futures image also sees a different approach to work by focusing on respectful and meaningful work coupled with reduced working hours. People work fewer hours due to shorter

production cycles and reduced overall production. In addition, the shortening of working hours also demonstrates respect for people's capacity to work and supports people's work-life balance. More free time also allows people to contribute to socially valuable tasks such as caring for family, housework, and other activities that allow for a more sustainable society. Furthermore, as production is socially necessary, people find great value and meaning in their work and feel like a part of the collective society. Lastly, being a non-monetary economy, there is also no wage labor. P1 states that there are some uncertainties on how this would work in practice and that further explorations are needed. However, this also suggests that the literature on non-monetary economy and practices may contribute to the degrowth discourse.

This futures image represents a radical and utopic shift away from today's businesses. Given the profound societal changes required to facilitate such a future, it should be categorized as a rather 'preposterous' future. However, this does not mean that there are no weak signals in favor of such developments or local communities from whom we can learn to embrace a less monetary and materialistic society (P6). Nevertheless, the realization of this utopia is uncertain and challenging. Therefore, P1 argues that the role of businesses moving forward is contributing to the evolution of business models and structures that make businesses obsolete and support the realization of a non-business future. This can happen in various ways, such as a move towards not-for-profits and social cooperatives and then a further move towards a non-monetary and non-business future (P1). However, these changes must co-evolve with other societal changes and developments, and P1 argues that organizations must become political and actively work to challenge and dismantle capitalist structures moving forward. Another challenge is ensuring a global and simultaneous transition toward such a future to avoid local evolutions that isolate degrowth communities (P1, P6). Furthermore, discussions may also be needed on topics such as industry-specific requirements and organizational models, as well as the role of highly specialized knowledge and production in this future.

4.2.2. Utopic future 2: Not-for-profit organizations in a post-capitalist society

The second futures image can be characterized by a formal not-for-profit economy accompanied by a thriving informal economy. In this future, businesses still exist and are required by law to have a not-for-profit legal structure. Hence, this is a regulation-driven future in which legislation is used to prevent environmentally and socially harmful business practices. However, it has been increasingly recognized that our needs can be met outside the formal economy, such as by sharing, swapping, and repairing goods at an individual and community

level (P3, P8). So, while the formal economy still exists, it is significantly smaller and less important in our everyday lives when compared to today's society (P8).

Production in this future is focused on meeting genuine human needs and avoiding socially unnecessary or excessive production. Hence, there has been a significant reduction in aggregate production and consumption to a level where humanity exists within the planetary boundaries. Furthermore, the formal economy mainly consists of small local firms, although some industries have larger companies where necessary to ensure resource efficiency. However, local embeddedness is still important for all degrowth businesses. Table 13 shows the key features of a degrowth business model in this future.

Table 13: *Degrowth business model for utopic future 2 (not-for-profit organizations in a post-capitalist society)*

Element	Description
Values (examples)	<ul style="list-style-type: none"> • Democracy, anti-capitalist, ecological and social sustainability, knowledge-sharing, transparency, sufficiency, appropriate abundance.
Product	<ul style="list-style-type: none"> • Satisfies a genuine human need. • Product design based on sustainability and circularity principles.
Production	<ul style="list-style-type: none"> • Efficient use of resources and energy. • Production seeks to meet only needed demand. • Circular production practices.
Local vs global	<ul style="list-style-type: none"> • Primarily local organizations. • Some global exchanges and collaborations occur as fruitful exchanges.
Governance	<ul style="list-style-type: none"> • Alternative ownership structures (e.g., employee or foundation owned). • Democratic and participatory governance structures.
Work and employment	<ul style="list-style-type: none"> • Respect for humans' capacity to work (reduced working hours). • Seek to provide meaningful work.
Stakeholder engagement	<ul style="list-style-type: none"> • Respect for all stakeholders, human and non-human. • Seeks stakeholder engagement and collaborative value creation.
Technology	<ul style="list-style-type: none"> • More considerate adoption of technology. • Knowledge-sharing and open resource (e.g., no patents) • Reduce unnecessary use of energy and resource-intensive technologies.
Company growth	<ul style="list-style-type: none"> • Primarily small and local companies. • Larger businesses exist in relation to specific industries, potentially adopting a network structure to ensure some local embeddedness.
Marketing	<ul style="list-style-type: none"> • No public marketing. • More conscious marketing (avoid manipulation and greenwashing)
Profit and finances	<ul style="list-style-type: none"> • Not-for-profit legal structure.

Degrowth business models in this future, as with the previous futures image, are developed to support the notion of appropriate abundance while operating within the planetary boundaries and exhibiting respect for both human and non-human life. As outlined in Table 13, degrowth business models incorporate sustainability, circularity, sufficiency, and degrowth principles into all their activities. This means improving product design to ensure longevity, durability, and reparability, adopting circular production practices, limiting the use of virgin

materials, use of renewable energy, and more. Companies also have legally imposed extended producer responsibility, making them responsible for products at their end-of-life. There is also a more conscious adoption of technology by considering its environmental impact and avoiding resource- and energy-intensive solutions.

Focusing on appropriate abundance and meeting genuine human needs rather than artificially created wants have certain implications for a degrowth business. For example, degrowth businesses should embrace the concept of temporality, which refers to the idea that contexts and situations change and evolve and can create situations where the purpose and the ultimate need for a business must be reevaluated. Hence as society's needs change or the company manages to achieve its mission, the company must reevaluate its purpose and consider whether it should continue existing (P4, P8, P11). Degrowth companies should further consider how their activities contribute to and can help reduce aggregate production and consumption. This means embracing sufficiency and operationalizing this by offering secondhand sales, providing functionalities over ownership, facilitating repair or maintenance, or encouraging sharing and more conscious consumption. This also means that marketing is repurposed as an informational communication tool, for instance, to encourage more conscious consumption. Advertising is prohibited in many public places, and there are substantial penalties for greenwashing or misleading advertisements.

Degrowth companies in this future must further have a not-for-profit legal structure (P7, P8). As noted in the literature review, not-for-profit legal structures may prevent perverse incentives for profit-maximizing and avoid giving a priori to financial performance. This means that degrowth companies do not have shareholders and that any profits generated are invested back into the company to help it achieve its social or environmental mission rather than support wealth and capital accumulation.

Beyond this, there has been a significant reduction in global trade. For instance, efforts have been made to eliminate or minimize the import of socially unnecessary products (P4, P8), intra-industry trades (where an economy exports and imports similar types of products) (P7), and the processing of local products abroad before being returned to the original country for sale (P4). The reduction in international trade further means that products that cannot be produced locally but that must be imported have become luxury goods. For instance, bananas or Italian tomatoes are now occasional treats rather than household staples, depending on one's location (P4, P12). However, as with the first futures image, fruitful exchanges and interactions still exist though they focus more on knowledge-sharing across communities and cultures.

Degrowth business models in this future also strongly emphasize community and social relationships. For instance, collaborative value creation and engaging consumers are important to ensure that production meets the community's needs. Businesses are viewed as a natural part of our social interactions, whether between colleagues or employees and customers, rather than existing solely for the purpose of transactions (P2, P7). Combining this with the focus on small, local business means that it is more common to see local bakeries and farmers' markets rather than large supermarkets (P3, P7).

Regarding employment, there is a focus on creating a more democratic and participatory workplace and embracing more democratic ownership structures, such as employee-owned entities, foundation-owned companies, or social cooperatives. Total working hours are reduced to match working time with needed production and reduced operating cycles and ensuring more free time for employees (P7). Free time is essential as it allows people to engage in other socially important tasks and activities in the informal economy, such as taking care of family, doing household chores, growing food, fixing bikes, helping neighbors, volunteering, and more (P3, P7, P8, P10). However, it also importantly gives people more time and opportunity to meet non-materialistic needs by maintaining social relationships, connecting with nature, and simply having leisure time (P8).

4.2.3. Dystopic future 1: Capitalist corruption of degrowth

Moving on to the dystopic futures, the first dystopic futures image centers around a future where degrowth is adopted and corrupted within the capitalist system. In other words, there is a continuation of capitalism and the for-profit economy, with degrowth being positioned as compatible with capitalism. Hence, this future is effectively a continuation of current practices and systems, with some companies embracing the slogan of degrowth to appear more sustainable but failing to incorporate its true principles. Hence, degrowth has become a sustainability trope used to market companies as more environmentally friendly, effectively paying lip service to social and ecological sustainability without leading to any profound change or impact. Table 14 outlines the business model elements associated with this future.

Table 14: *Degrowth business model for dystopic future 1 (capitalist corruption of degrowth).*

Element	Description
<i>Values (examples)</i>	<ul style="list-style-type: none"> • Primarily profit-seeking and shareholder value. • Incorporates values of sustainability on paper.
<i>Product</i>	<ul style="list-style-type: none"> • Products are not necessarily created to meet a need but may create artificial wants. • May offer maintenance and repair services to meet demand and make profits. • Products designed to look more sustainable and 'green'.

	<ul style="list-style-type: none"> • Seek to use “more sustainable” materials.
<i>Production</i>	<ul style="list-style-type: none"> • Seeks to incorporate circular production practices that are cost-efficient.
<i>Local vs global</i>	<ul style="list-style-type: none"> • May have global supply chains. • May be a global or local company.
<i>Governance</i>	<ul style="list-style-type: none"> • Owned by individuals or a board (continuation of current practices)
<i>Work and employment</i>	<ul style="list-style-type: none"> • Continuation of current practices.
<i>Stakeholder engagement</i>	<ul style="list-style-type: none"> • Continuation of current practices.
<i>Technology</i>	<ul style="list-style-type: none"> • Seek technological fixes to ensure efficiency improvements, reduced emissions, and address other sustainability concerns.
<i>Company growth</i>	<ul style="list-style-type: none"> • Continuation of current practices.
<i>Marketing</i>	<ul style="list-style-type: none"> • Continuation of current practices.
<i>Profit and finances</i>	<ul style="list-style-type: none"> • Continuation of current practices.

As Table 14 shows, degrowth business models in this future largely represent a continuation of current practices. Degrowth businesses in this future still focus on increased growth, sales, and profit objectives. They can be privately owned and funded through equity investments, creating strong incentives to continually improve financial performance over social and environmental performance.

Nevertheless, degrowth companies in this future still embrace sustainability principles and use this as a key corporate value to develop a competitive advantage. The company may make efficiency improvements in production, incorporate circular principles, use renewable or more sustainable materials, and make ambitious sustainability goals. The company may include second-hand sales, recycling or end-of-life services, or repair and maintenance services as an additional element to its product offering. Hence, several efforts are made that align with the green growth discourse and current trends within corporate sustainability. However, company performance still depends on increased sales and profit hence companies only implement sustainable initiatives and products as a section of their overall offerings while using the sustainability elements to market the company. Furthermore, no considerations are made regarding issues such as aggregate consumption, materialistic values, and the rebound effect. Hence, there are no practical efforts to reject growthism or contribute towards a societal transformation towards a post-growth society.

Degrowth business models in this future experience significant tensions. As shown in the horizon scanning, the capitalist system imposes significant constraints that prevent the genuine and holistic adoption of degrowth practices. For instance, the company still relies on fossil fuel energy and struggles to reduce its negative environmental impact. Small changes are

made toward incorporating degrowth principles but are insufficient to address the climate crisis and still support the continuation of capitalism. As stated by P13, “when you scratch a teeny bit on the surface, there is nothing fundamentally changed” about the decision-making and logic exhibited by the companies.

Despite its superficial presentation, the futures image offers some interesting insights. Unfortunately, the interviews provided limited time to discuss scary or dystopian futures, resulting in rather superficial explorations of the specific business model elements. Nevertheless, the futures image can be viewed as an indictment and criticism of the current corporate sustainability discourse, where companies embrace sustainability on paper but fail to question their core practices, structures, and activities. For instance, P8 describes her dystopic version of a degrowth future as one where:

“... we think for-profit companies are compatible with degrowth. So, we are going to keep for-profit companies and profit-driven companies because we do not see that it is at odds with degrowth. And then, the dynamics of a for-profit economy would take over, and it would not allow for degrowth to actually happen. (...) And then it ends up contributing more to the inequality and overconsumption and everything else that is inherent in the for-profit economy.” (P8)

As indicated by the quote, the fear is primarily associated with the fact that such a future would continue many of the current dynamics and practices, ultimately having devastating effects on both human and non-human life. This would include increased inequalities, worsening climate crises, and potential future collapse of the economic system.

However, the futures image also raises the question of whether degrowth can be greenwashed. For instance, P3 argues that degrowth cannot be greenwashed or corrupted, stating that “it is quite hard to be for degrowth and then still pursue a growth economy because it is just such a blatant contradiction of terms” (P3). Nevertheless, several participants still indicated concerns about the cooptation, corruption, or superficial implementation of degrowth (P1, P8, P9, P13), and it was admittedly the first worst-case scenario personally imagined by the thesis author.

4.2.4. Dystopic future 2: Degrowth dictatorship

The second dystopian image focuses on a future in which degrowth has been implemented through authoritarian or totalitarian means. The futures image is heavily influenced by deep

ecology and eco-fascism and was suggested as a potential dystopian future by multiple interviewees (P1, P3, P5, P6, P8, P10, P12).

In this future, environmental sustainability is achieved through authoritarian or totalitarian regimes imposing restrictions and strict regulations to push their vision of a sustainable future without necessarily meeting the social objectives of degrowth. Production is controlled by the government, which regulates the types of products, the quantity of production, and the methods of production. Hence, degrowth companies produce based on the needs specified by the government, which manages overall consumption and production levels. To ensure sustainability, companies are banned from using certain production practices and producing unnecessary or environmentally harmful products. In other words, degrowth businesses in this future have reduced environmental impact and operate within the planetary boundaries.

However, the key concern associated with this future is the lack of freedom, democracy, and social well-being. Firstly, a degrowth business in this future may not meet the needs of the communities it serves, as needs are determined by the state rather than tailored to the communities (P6). Furthermore, the government determines how much people work, the type of work they do, and their compensation. P5 mentions a fear that such a future would lead to the use of labor camps and other exploitative and socially undesired mechanisms of labor. This undoubtedly opposes the participatory, respectful, and meaningful employment emphasized in the utopian futures images.

Table 15 outlines the key features of a typical degrowth business model within a degrowth dictatorship.

Table 15: *Degrowth business model for dystopic future 2 (degrowth dictatorship)*

Element	Description
Values (examples)	<ul style="list-style-type: none"> • Ecological sustainability, state-power
Product	<ul style="list-style-type: none"> • Products are created to meet needs and standards determined by the governing power.
Production	<ul style="list-style-type: none"> • Local production. • Embrace sustainable and circular production practices as determined by the governing power.
Local vs global	<ul style="list-style-type: none"> • Likely more isolationist.
Governance	<ul style="list-style-type: none"> • Companies may be partially or fully owned by the state. • Governance influenced by regulations.
Work and employment	<ul style="list-style-type: none"> • Employment type and times are set by the government. • Employment is viewed as a service to society.
Stakeholder engagement	<ul style="list-style-type: none"> • Not viewed as particularly important as decision-making is primarily in the hands of the governing power.
Technology	<ul style="list-style-type: none"> • Not specified.

<i>Company growth</i>	• Not specified.
<i>Marketing</i>	• Not specified.
<i>Profit and finances</i>	• Not specified.

As with the first dystopic futures image, several of the business model elements have yet to be discussed. Table 15, therefore, only provides a limited overview, as certain elements, such as marketing, growth strategy, use of technology, and relationship to profit, would need to be discussed further and would likely be determined by the specific governing state. However, it can be assumed that degrowth companies would be partially or fully owned by the government and that marketing would serve more as propaganda.

While the details of degrowth business models in this future need to be further explored, the futures image accentuates the fact that degrowth is not simply about ensuring business activities that respect the planetary boundaries but that it must also acknowledge and respect social well-being. Interviewees emphasize that this futures image represents a misguided or misunderstood development and does not align with their understanding of degrowth and its values. For example, P5 stated that this future would ignore the “democratic and ethos of fairness in the degrowth literature” and thus becomes a paradoxical and contradictory development of degrowth.

Lastly, it is interesting to note the number of interviewees who suggested authoritarian or eco-fascist developments as a potential dystopian future and/or listed fascism or authoritarian forces as a barrier to degrowth (P1, P3, P5, P6, P8, P10, P12). This indicates that authoritarian ideologies are a substantial fear for the future development of our societies and highlights the importance of democratic, participatory, and social values when proposing and implementing degrowth policies and changes.

4.3. Comparing the futures images – similarities, tensions, and insights

The purpose of the futures images is to enhance our understanding of degrowth business models and the operationalization of degrowth, hence it is important to consider the meaning and implications of these images. The data analysis and construction of the futures images provide the following insights:

1. There is significant agreement regarding the principles incorporated in a degrowth business model and their practical implications regarding company purpose, product design, production practices, geographical scope, and approach to work and employment. The analysis revealed many similarities between the interviewees’

conceptualizations and understandings of degrowth business models. Appendix C provides an overview of the specific elements of degrowth business models identified in the interviews and compares them to the criteria established by prior research and discussions on degrowth business models, namely the papers by Khmara and Kronenberg (2018), Hankammer et al. (2021), and Nesterova (2020). Overall, there is considerable overlap between the interview responses and the conceptualizations provided in the literature, especially in relation to adopting an alternative and anti-capitalist understanding of business, meeting genuine human needs, contributing to appropriate abundance and more conscious consumption, ensuring democratic and respectful workplaces, as well as integrating sustainability, sufficiency, circularity, and degrowth principles throughout the business model. However, the thesis offers one notable addition to the criteria for degrowth business models, namely the need for a more explicit understanding and incorporation of temporality and acknowledging changing needs. As described in the second utopian futures image on not-for-profit degrowth businesses, there needs to be a continuous evaluation of the company's purpose, how it meets social needs, and whether its continuation supports socio-ecological well-being. However, the futures images do not provide significant insight into the role of corporate management and leaders. For instance, Khmara and Kronenberg (2018) list "corporate leaders' commitment to company values in their personal life" as a key criterion for degrowth businesses (p. 724). This was not directly discussed in the interviews and would, hence, need to be further assessed in discussing the development of more democratic governance structures and establishing the activist role of degrowth companies.

2. The societal context and macroeconomic conditions contribute significantly to the types of degrowth business models possible. The futures images further illustrate the importance of the societal context in which degrowth business models exist. The operating environment, as outlined by the six PESTLE dimensions, influences the possibilities of a degrowth business model and highlights the fact that businesses do not exist in a vacuum. While certain contexts and environments are clearly more favorable and supportive for implementing degrowth business models, others may restrict or limit their potential and impact. This also relates to Hankammer et al.'s (2021) conclusion that "the regional, cultural and political contexts in which organizations are embedded" (p. 12) can influence a company's orientation towards degrowth. This indicates that the development of degrowth business models may be easier in certain geographies and cultures, encouraging further research on more context and location-specific implementations of degrowth and degrowth businesses. However, it also

suggests that efforts should be made to facilitate decision-making and societal changes that contribute to the development of more favorable conditions.

3. Different attitudes exist toward the role of profits in a degrowth business and hence about the type of economies that align with degrowth. The key difference between the two utopian futures images is the type of economy they exist in. While there is an agreement that a degrowth company cannot exist for profit maximization, the interviews reveal different attitudes toward profits and hence the type of economy needed for a degrowth transformation. While the two utopic futures present a non-monetary economy and a not-for-profit economy, considerations were also made to incorporate an additional futures image featuring a not-only-for-profit economy. Some interviewees argued that profits are necessary to maintain a stable and healthy organization and to ensure a functioning economic system (P4, P12, P13). Hence, while there is a general agreement that considerations must be made about how profits are used and to avoid profit-maximizing behavior and extractive shareholder thinking, how to do this remains debatable. This arguably demonstrates the existence of different streams and approaches to degrowth and is a significant area of tension as it relates not only to the management of profits but also to the type of economy and legal frameworks needed to support degrowth business models.

4. There are disagreements on how to approach degrowth business models and the micro-level operationalization of degrowth. The analysis further revealed conflicting approaches to the discussion on operationalizing degrowth within business. Firstly, not everyone believes that businesses can exist within a degrowth society, as illustrated in the first futures image on non-business organizations in a non-monetary economy. However, several articles and papers discuss the use of degrowth principles within business (see Lüdeke-Freund & Froese, 2021; Roulet & Bothello, 2020; Webb, 2022a). Khmara and Kronenberg (2018) even stated a wish to “ensure a broader appeal” of degrowth within business (p. 723). However, concerns have been expressed about this contributing to a misunderstanding of degrowth and people perceiving degrowth as compatible with capitalism or as a way of establishing a competitive advantage. This is largely the idea of the first dystopian futures image featuring a capitalist corruption of degrowth. Though this does illustrate an area of disagreement, it also emphasizes the importance of considerate applications of capitalist social constructs and ideas when discussing the implementation of degrowth.

5. Individual corporate growth should be limited and evaluated by its socio-ecological value. Whether a degrowth company must adopt a non-growth strategy or should be allowed to grow during a degrowth transition to replace less sustainable corporations and

practices was identified as a key area of discussion in the literature review on current conceptualizations of degrowth business models and frameworks. While not particularly featured in the futures images presented, the data analysis also offers some insights on this topic. Similar to the conclusion offered by Hankammer et al. (2021), the data analysis showed that the question of growth strategy cannot be answered by focusing solely on the microeconomic perspective of the firm but must consider the meso- and macro-level contexts of the company. The analysis found that company growth should be evaluated based on the social or environmental value provided and must be balanced with society's social and environmental needs and limits (P2, P3, P4, P8). As noted in the literature review on degrowth, degrowth entails a qualitative shift of the economy, which means that some industries will be expanded while others will shrink or become obsolete. Hence, the question of growth depends on the company's industry and the socio-ecological value it provides and should, therefore, not be framed as a way of out-competing less sustainable companies (P8). This also relates to determining the appropriate company size. As illustrated in the futures images, there may be cases where companies need to maintain a certain size to efficiently serve multiple communities and ensure efficient resource and energy use. Hence, while a degrowth company cannot pursue a strong growth and expansion strategy focused on market share and profit generation, the line is more blurred regarding organic growth and appropriate company size. Addressing this question will require more industry- and location-specific research and debate, as well as discussions on the role of regulation and other mechanisms in preventing certain types of growth.

Before concluding the thesis, it is important to acknowledge again that degrowth refers to a large societal transformation, and hence its discussion and implementation cannot be limited to only individual firms. Changes are needed in all areas of society, and there is a need to acknowledge the interrelationships and dependencies between companies and societal structures. Furthermore, given the variety of functions, cultures, community needs, and factors influencing the implementation and future maintenance of degrowth business models, there will likely be different types of degrowth business models operating based on their unique functions and objectives. As stated by P8:

“I have seen lots of really nice examples of businesses that are post-growth compatible, and they are not all cooperatives. So, I find that that is important to keep open because diversity is also our friend. When we have diversity in the economy, then it makes it more resilient, right, and we can learn from each other that way.”

The development of degrowth business models is uncertain and will need to evolve over time in order to adapt to their unique contexts, geographical placement, and industry. However, further experimentation, research, and discussion will be important to develop best practices, ensure consideration for social and environmental well-being, and avoid getting locked into current perceptions of business. The futures images presented in this paper are only one contribution to this discussion, yet hope to inspire further research and discussion.

5. DISCUSSION AND CONCLUSION

5.1. Research summary

Seeking to address the question of '*what different futures images exist of degrowth business models?*', the thesis has explored different ideas of what degrowth business models may look like in the future. The purpose of the thesis was to contribute to the relatively scarce literature on degrowth business models by offering a new approach and scope to the topic. Specifically, the thesis has sought to enhance our understanding of degrowth business models by providing insights into the opinions, hopes, and fears around the degrowth business models, the implementation of degrowth in business, and identifying drivers and barriers for the implementation of degrowth business models.

The literature review helped establish the relevance and influence of degrowth in business by exploring the arguments against continued growth and the capitalist modes of production as well as the history, meaning, and policy proposals of degrowth. The pursuit of infinite economic growth is causing significant harm to human and non-human life by leading to planetary overshoot, ecological degradation, and social inequalities (Hickel, 2020). While the green growth discourse proposes that growth can be made sustainable through technological development, innovation, and investment (OECD, 2011), the post-growth and degrowth discourses question the feasibility of such an approach and propose a transition towards a non-growth dependent economy oriented towards socio-ecological well-being (Hickel, 2020). Being the more radical stream within post-growth, degrowth proposes a planned and deliberate reduction in consumption and production "designed to bring the economy back into balance with the living world in a way that reduces inequality and improves human well-being" (Hickel, 2021, p. 1105). This requires fundamental changes in our societies, including in how production is organized.

Exploring the current literature on sustainable and alternative business models and degrowth business models and frameworks demonstrated a need for further exploration of degrowth business models. Assessing different types of sustainable and alternative business models – namely sustainable business models, circular business models, sufficiency-driven business models, not-for-profit businesses, and non-growing businesses - provided insights into ways of operationalizing different elements of degrowth. However, none of the included business models fully align with the objectives and scope of degrowth. Reviewing key papers on degrowth business models and frameworks by Khmara and Kronenberg (2018), Hankammer et al. (2021), and Nesterova (2020) found significant similarities in the descriptions of degrowth

business models. This included requiring a deviation from profit maximization, adoption of sustainable and circular product design and production processes, embrace of more democratic governance structures, and reduced working hours. However, the review also highlighted the need for further contributions to enhance the understanding of degrowth business models and address tensions, such as providing further discussions on degrowth businesses' growth strategy and operating environment.

To explore the futures images of degrowth business models, the thesis adopted a qualitative approach coupled with critical realism as its research philosophy. This allowed for the collection of people's opinions, attitudes, hopes, and fears associated with the implementation of degrowth in business and their understanding of degrowth business models. Thirteen individuals were selected for the interviews, with the selection focusing on interviewees having prior knowledge of degrowth and the overall interview sample having a broad and diverse range of knowledge and experiences. Collected data was subsequently analyzed using thematic analysis, which involved the standard process of coding and thematization of the data, resulting in 136 codes across 19 key themes. The process also included two additional steps to conduct the horizon scanning and construct the four futures images before writing up the findings. The analysis used a deductive approach, building on elements identified in the literature review and the PESTLE dimensions.

The thesis findings can be divided into three key sections: those provided by the horizon scanning, those presented in the futures images, and the implications of the data analysis and constructed futures images. Addressing the first sub-research question, '*What are the potential drivers and barriers for implementing degrowth business models moving forward?*', the horizon scanning used the interviews to identify various trends, signals, and weak signals that may support or constrain the development of degrowth businesses. The key supportive forces include a growing interest in post-growth discourses, changing social values, increased recognition of the limits of GDP, increased environmental concerns and activism, the existence of alternative businesses, and companies increasingly incorporating sustainability values. However, capitalist structures, systems, and path dependencies pose significant challenges and obstacles for degrowth business models, such as preventing the adoption of alternative business practices and structures, promoting materialistic lifestyles and consumerism, and contributing to uneven power dynamics. Perhaps the most important obstacle is the naturalized view of capitalism which limits people's ability to explore, imagine, and embrace alternative futures beyond capitalism. Furthermore, political polarization, authoritarian regimes, and far-right movements were identified as potential future barriers.

Answering the main research question, the thesis further presented four different futures images of degrowth business models, describing the implementation of degrowth in different future contexts. First, two utopian futures images were presented. The first utopian futures image represents a non-business future with a non-monetary economy. In this futures image, production is organized according to the principles of commoning, horizontal governing, sufficiency, and socio-ecological sustainability. Activities are communally organized outside of any formal economy as small, localized activities supporting self-sufficient communities. The second utopian image, however, focuses on not-for-profit businesses in a post-capitalist economy. This future still features a monetary economy, though it is significantly reduced and combined with a thriving informal economy. However, as with the first futures image, it centers around providing appropriate abundance within social and ecological limits. In contrast, the last two futures images represented dystopian futures. The first dystopian futures image focuses on a capitalist corruption of degrowth. It describes a future in which degrowth is used as a greenwashing tool, providing lip service to the sustainability movement without resulting in real change. Lastly, the second dystopian futures image features a degrowth dictatorship in which ecological sustainability is achieved through authoritarian or totalitarian means without concern for the social values and principles proposed by degrowth.

The thesis also assessed the similarities and differences between the futures images and how they contribute to our understanding of degrowth businesses, i.e., addressing the second sub-research question. Firstly, the thesis found significant agreement and overlap in the understanding of degrowth business models, both among interviewees and between interviewees and the existing literature. This includes an overlap in the values that must be incorporated and the practical changes required with respect to product design, production practices, governance structures, employment practices, and geographical scope. However, the thesis also identified the acknowledgment and embrace of temporality as a potential additional element or value for a degrowth business. The findings further elaborated on existing discussions on a degrowth company's growth strategy highlighting the need for industry and macroeconomic considerations and ensuring that growth is aligned with socio-ecological objectives and needs.

Furthermore, the thesis also showed the significant impact a company's operating environment has on the operationalization of degrowth. This is demonstrated by the barriers and obstacles identified in the horizon scanning and by the PESTLE context provided for each of the futures images. Clearly, the current capitalistic system creates significant barriers for

degrowth business models, and ensuring thriving degrowth businesses will therefore require the development of more supportive operating environments.

Lastly, the findings also highlighted some important areas of disagreement and tension. First, the interviewees exhibited different attitudes toward profit. While the interviewees agree that degrowth companies should not focus on profit maximization, the exact role of profit appears to be more debatable. This consequently creates further disagreements concerning the type of economy and legal structures needed to facilitate degrowth. For instance, the two utopian futures images exist within different economic systems and legal structures. Furthermore, the thesis also identified some fundamental tensions in how to best approach degrowth in relation to business and whether the two are even compatible.

5.2. Theoretical contribution

The thesis contributes to the existing knowledge on degrowth business and business models by offering a unique exploration of what degrowth business models might look like if implemented in the future. Firstly, the thesis has taken a new approach to discussing and exploring degrowth business models by adopting a futures study - specifically futures images - approach. Though a few papers have been identified connecting futures studies with degrowth or alternative growth discourses (see e.g., Fitzpatrick et al., 2022; Köves et al., 2021; Svenfelt et al., 2019), no papers have been identified explicitly connecting futures images and degrowth or futures images and degrowth business models. Furthermore, the thesis also provides insights from a broad scope of individuals with interviewees from various countries and with different levels and types of experiences, allowing the thesis to reflect a broad perspective of ideas and approaches to degrowth.

A key contribution of the thesis lies in evaluating the level of agreement between the conceptualizations of degrowth businesses in the existing literature with those provided by the interviewees. Comparing the interviewees' descriptions of a degrowth business model with those presented in the literature provided significant overlap, particularly regarding elements such as stakeholder engagement, production processes, product design, values, and socio-ecological efforts. This is clearly illustrated in Appendix C and arguably helps validate the findings and frameworks offered by Hankammer et al. (2021), Khmara and Kronenberg (2018), and Nesterova (2020) by demonstrating that they are reflective of people's perceptions of degrowth business models.

However, the thesis also builds upon the existing literature by providing a more nuanced discussion or illustration of certain topics in the context of degrowth business models, such as

the role of global trade and exchange, the contraction of the formal economy, and the need for temporality. For instance, while Hankammer et al. (2021), Khmara and Kronenberg (2018), and Nesterova (2020) indicate a reduction in global trade by proposing more localized operations and exchanges, the papers do not engage in discussion on the type of global trades that would still be allowed and which would not. In both utopian futures images, the thesis presents ways in which to navigate global exchanges and interaction. The second futures image of not-for-profit businesses in a post-capitalistic society even provides a list of key forms of global trade and exchanges to avoid and minimize, such as intra-industry trades and importing unnecessary or harmful products.

Beyond this, the exploration of multiple futures images of degrowth business models has also arguably enriched our understanding by 1) illustrating important disagreements and different streams of thought within degrowth and 2) providing insights to help guide decision-making towards the future. The dystopian futures image of capitalist corruption proposes that degrowth is incompatible with a capitalist economy. In contrast, the two utopian futures images present different economic contexts as best suited for a degrowth society, highlighting a disagreement regarding the interviewees' attitude to profit and hence the economic system most compatible with degrowth. In other words, the utopian futures images demonstrated the existence of different streams of thought associated with degrowth. While diversity of thought is not necessarily negative, it is important to acknowledge it as it may lead to conflicting opinions in developing policies, proposals, and recommendations for the future.

Furthermore, constructing futures images and identifying drivers and barriers to degrowth business models can help guide discussions and decision-making for the future. Futures images can help guide actions and decision-making to support the realization of desirable futures while avoiding undesirable ones (Beers et al., 2010). In the context of this thesis, the utopian futures images represent radical shifts away from the current trajectory, which is arguably more aligned with the dystopic futures image of capitalist corruption. Hence, efforts are needed to identify ways of transitioning our society and making decisions that place us on a trajectory toward more desirable futures. Through the horizon scanning, the thesis has offered insight into both current and future obstacles for implementing degrowth business models, such as capitalist structures and path dependencies, the rising influence of far-right and fascist movements, and increased feelings of hopelessness as a result of worsening climate crises. Furthermore, the dystopian images provide examples of undesirable futures and can provide insights into what to avoid and the importance of a holistic approach to degrowth (e.g., incorporating both social and environmental values and objectives). Hence, while specific

recommendations are not made for future decision-making, the thesis provides insights into potentially influencing elements that should be considered in future discussions.

5.3. Contribution to practice

From the perspective of managers and practitioners, the thesis echoes many of the practical implications and practical advice offered by Hankammer et al. (2021), Khmara and Kronenberg (2018), and Nesterova (2020). Despite the barriers and obstacles to adopting degrowth business models, there are still significant efforts and actions that can be made by businesses now to become more sustainable and to better align with the principles and ideas of degrowth. Table 16 outlines the key managerial takeaways offered by this thesis, which are based on the descriptions provided by interviewees in Appendix C.

Table 16: Implications for managers and practitioners.

Dimension	Managerial implication
Approach to business	Managers should adopt a non-capitalist or alternative understanding of business. This involves: <ul style="list-style-type: none"> • Ensuring a company mission and purpose other than profit maximization • Ensuring that the company meets an actual social or environmental need rather than artificial want. • Facilitating appropriate abundance and making efforts to help dematerialize the economy rather than excess consumption. • Avoiding extractive profits, e.g., by ensuring fair wages for suppliers. • Implementing non-financial measures of success. • Incorporate degrowth values.
Growth strategy	Managers should avoid developing and pursuing strategies that focus on growth for the sake of growth. This can be done by adopting a non-growth strategy or pledging not to grow in terms of resource use and material throughput.
Location	Production practices and exchanges should be localized where possible. This includes shortening supply chains, reducing trade distances, and minimizing the use of imported resources where possible. For larger companies, this may mean adopting a network structure to meet local demands and become more locally embedded.
Marketing	Managers should repurpose marketing to encourage more sustainable and conscious consumption. This includes avoiding manipulative and coercive marketing strategies focused on increasing sales.
Ownership and governance	Managers should create a more democratic and participatory workplace by ensuring mechanisms for participation among employees. This can also be done by adopting alternative ownership structures, e.g., being employee owned.
Product	Managers should prioritize the development of products that satisfy a genuine human need, ensure sustainable product design, as well as encouraging sustainable consumption of that product. This includes producing less useless and harmful products, improving product reparability, durability, and longevity, as well as offering repair and maintenance services.
Production	Managers should improve the sustainability of their operations and production processes by adopting circular production practices, ensuring efficient use of resources, reducing aggregate production and operating cycles, and eliminating or reducing the use of hazardous materials and processes. It further requires consciously selecting suppliers based on social and environmental values.
Stakeholder relations	Managers should become more locally embedded by finding ways to incorporate customer feedback and creating opportunities for collaborative value creation. Furthermore, companies should seek to respect all stakeholders, human and non-human.

Technology	Managers should encourage a more sustainable approach to technology within the company, such as avoiding resource- and energy-intensive technologies, ensuring the reuse and maintenance of existing technologies, and a more considerate adoption of technology in the future considering their environmental impact.
Work and employment	Managers should create a meaningful, participatory, and respectful workplace that respects employees' capacity to work, facilitates work-life balance, and acknowledges the need for free time and human interactions.

Table 16 shows that various actions can be taken to better align a company with degrowth. However, it is important to note that this is only an illustrative list. The thesis does not seek to provide a final or exhaustive list of degrowth criteria or elements. For instance, it has already been acknowledged that the thesis lacks findings related to the role of management in the futures images and in degrowth business models more generally. Furthermore, as demonstrated by the second dystopian futures image of a degrowth dictatorship, efforts to implement degrowth practices must adopt a holistic approach acknowledging both the social and environmental objectives of degrowth. In other words, practitioners and managers should seek to incorporate degrowth values throughout the business.

5.4. Limitations and suggestions for future research

According to the thesis' research philosophy, critical realism, all research is imperfect and incomplete (Buch-Hansen & Nesterova, 2021). For this thesis, the key limitations and potential shortcomings are related to the limited amount of prior research on the topic, limitations within the research design and methodology, the level of subjective interpretation and decision-making, and the scope of the thesis.

Firstly, only a limited number of studies were identified focusing specifically on degrowth business models and frameworks. The review of current conceptualizations of degrowth business models was, therefore, limited to only three key papers, namely those by Hankammer et al. (2021), Khmara and Kronenberg (2018), and Nesterova (2020). While the overall literature review was supported by literature on key concepts such as post-growth and degrowth as well as literature on sustainable and alternative business models, the limited number of prior studies on the topic should be noted as this also limits the current understanding of the research phenomena.

Secondly, the thesis featured a relatively small sample of only 13 interviewees. While studies indicate that data saturation can occur at smaller sample sizes (see e.g., Guest, 2006; Hennink & Kaiser, 2022), this may have implications for the representativeness of the thesis findings. While efforts were made to ensure that the interviewees collectively exhibited a broad scope of knowledge and a variety of backgrounds, the limited sample size means that the futures

images are not necessarily representative of those held by the majority of people in the degrowth movement. Additionally, using a semi-structured approach meant that not all interviewees were asked all questions, which may have limited the opinions and perspectives on certain topics. Hence, while the thesis concluded that adding additional interviews would provide only limited benefit, it is important to acknowledge this limitation and avoid representing the findings as applicable to a broader segment of society.

There are further some notable limitations and weaknesses in utilizing thematic analysis to analyze the data. While using thematic analysis provided flexibility in analyzing the data, this flexibility also increases the risk of "inconsistency and a lack of coherence when developing themes" in individual studies (Nowell et al., 2017, p. 2). Having multiple people working on the analysis is therefore recommended to improve the reliability of the analysis (Nowell et al., 2017). However, this was not possible due to this being an individual thesis.

Furthermore, both judgment sampling and thematic analysis require the subjective judgments of the researcher, consequently leaving room for bias. As stated by Nowell et al. (2017), "when conducting data analysis, the researcher becomes the instrument for analysis, making judgments about coding, theming, decontextualizing, and recontextualizing the data" (p. 2). Hence, as the meanings derived from the data are developed based on the understanding and interpretations of the thesis author, there is a substantial risk of subjective judgments and bias (Ozuem et al., 2022). While this is acknowledged as a flaw with any research according to critical realism (Buch-Hansen & Nesterova, 2021), the thesis author's inexperience in research makes it particularly important to acknowledge this and ensure efforts to reduce the room for error and bias. Key efforts made to improve the thesis' trustworthiness included allowing the interviewees to give feedback on the interpretations made and attempting to be transparent in outlining the data collection and analysis process. Furthermore, the limitations of the thesis are acknowledged, and the findings are described as limited to the specific scope of this study.

Lastly, as the study progressed, it became increasingly apparent that it could potentially have benefited from a narrower scope, such as focusing on a specific industry or geography. The broad scope arguably limited the thesis findings by making them too broad, and a narrower scope could have contributed to more distinct managerial and theoretical findings and implications. Hence, to better understand the impacts of degrowth on business and the operationalization of degrowth, future studies could focus on examining different industries, contexts, and geographical scopes. There is also a need for future exploration of degrowth pathways to help guide the actions needed to reach the utopian futures images. Hence, the thesis somewhat echoes Khmara and Kronenberg's (2018) call for studies focusing on "transition

pathways from the current growth-centered economic system to a sustainable degrowth one" that account for "the microeconomic perspective of business management" (p. 730). Lastly, future research could also focus on how to best encourage the operationalization of degrowth in business, examine the role of post-growth narratives within business education, and explore the public perception of degrowth utopias and other positive futures images.

In concluding the thesis, I would like to echo the words of P7, who stated that "we need to be brave in imagining something different". The hope is that the thesis has provided both insight and interest in what a degrowth future may look like on the microeconomic level and inspired discussion and research into realizing these futures and effectively dealing with the challenges faced by today's society.

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APPENDICES

Appendix A: Interview guide

Estimated time: 60 minutes.

Interview outline: Prior to the interview, the participant will be given a short outline of the thesis (focus, aim, and objectives). The participant will be informed that the interview is voluntary and anonymous. Furthermore, permission will have to be given to record the interview and use quotes. Information will be provided regarding data storage.

Getting to know the participant

1. Can you tell me a bit about your background?
2. How many years have you worked in the field?
3. How did you become interested in the field (degrowth/sustainability)?

Understanding of Degrowth

4. How do you define or understand degrowth?
5. What is your personal perception or attitude towards degrowth? (I.e., do you have a favorable or unfavorable perception?) Please elaborate on why.

“Horizon Scanning”

6. Do you believe that degrowth will significantly shape business models in the future?
Why/why not?
7. What do you believe will be the most important factors, phenomena, forces, and/or trends influencing the future development of degrowth businesses?
8. What challenges or biggest threats that you identify/perceive for degrowth business models in 2050?

Degrowth Business Models / Futures Images

9. How do you think degrowth business models could look like in 2050?
10. What type of degrowth initiatives would you like to see adopted within business models by 2050? Specifically with regards to:
 - a. Company’s values and objectives
 - b. Product or service offerings - Meeting needs over wants.
 - c. Resource use and production practices
 - d. Distribution and supply chain
 - e. Sales and marketing

- f. Approach towards work and employees
 - g. Governance and ownership
 - h. Profit and revenue model
 - i. Growth strategy
 - j. Technology and innovation
11. In an ideal world, what do you think degrowth business models should look like in 2050? (Perfect/ideal future)
 12. Is there any version or adoption of degrowth that would scare you? What would be the least ideal version of degrowth existing in 2050?
 13. Is there any other future you can imagine for degrowth business models in 2050? (good, bad, more likely, something surprising?) Please outline one or two.
 14. Is there any element or feature you find to be fundamental for a degrowth business model?

Further thoughts

15. Are there any elements, concerns, or questions you would think are important that I may not have asked or included?
16. Is there anyone you think I should include in this study? In other words, who would you have interviewed if you were to conduct it?

Thank you!

Thank the participants for their time and participation, and outline the next steps (e.g., ensure the consent form is signed and when they can expect a draft of the thesis).

Appendix B: Horizon scanning

Tables 17 and 18 outline the drivers and barriers identified by interview participants. Note that the table only indicates which elements were mentioned in each interview and hence does not indicate whether other participants agree with others' statements and identified elements. Furthermore, different elements may be overlapping and interrelated.

Table 17: Identified drivers and supportive trends and signals for degrowth businesses.

		DRIVERS												
Dimension	Element	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
<i>Political</i>	Changing political environment opening doors for progressive change.					✓								
	Geopolitical tensions creating incentives for shorter and more localized supply chains.											✓		
	Increased interest in degrowth and post-growth narratives (e.g., by the European Commission and the IPCC).						✓							
	Political debate about topics related to degrowth (e.g., universal basic income, health care, right to repair, limitations of GDP, four-day workweeks, etc.).		✓	✓									✓	✓
<i>Economic</i>	Changes in labor dynamics (e.g., call for reduced hours, seeking better workplaces, changing preferences, etc.).							✓		✓				
	Developing better understandings of different types of business.							✓				✓		
	Existence of alternative organizations doing things differently.	✓					✓	✓	✓					✓
	GDP increasingly being acknowledged as a flawed measure of progress.			✓										
	Increased debates about the problems and limits to growth.					✓			✓	✓				
	Increased interest in degrowth and post-growth narratives.			✓		✓			✓					✓
	Increased willingness to criticize the economic system.								✓					
	Organizations and social entrepreneurs wanting to be more sustainable and do things differently.	✓			✓	✓		✓		✓	✓			
Worsening economic crises (e.g., contributing to job loss, poverty, and inequality) creating a drive for change.			✓		✓			✓						

<i>Social</i>	Activism, community and grassroots movements, and sustainability initiatives with values aligned with degrowth.	✓	✓	✓			✓	✓					✓	
	Changing social values.							✓	✓				✓	
	Debates about ownership.		✓											
	Developing greater appreciation for non-monetized assets and non-financial values.				✓									
	Increased debates about the problems and limits to growth.					✓								
	Increased environmental concerns and sense of urgency.				✓					✓	✓			
	Increased interest in degrowth and post-growth narratives.										✓			
	People increasingly questioning the current practices, values, and ways of doing things.		✓	✓			✓			✓				
<i>Technological</i>	Digitalization facilitating new types of businesses and ways of organizing.												✓	
	Increased automatization.												✓	
<i>Legal</i>	Countries being sued for failing to meet climate promises.		✓											
	Greenwashing being made illegal and penalized.				✓									
	Stricter legal frameworks and regulations (e.g., the European Green Deal).				✓									
<i>Environment</i>	Resource bottlenecks and supply shortages.				✓	✓				✓				
	Worsening climate crises, biodiversity loss, and environmental damage.				✓	✓		✓	✓					

Table 18: Identified barriers and obstacles for degrowth businesses.

		BARRIERS												
Dimension	Element	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
<i>Political</i>	Capitalist system, structures, and path dependencies.	✓	✓	✓		✓		✓		✓			✓	✓
	Current power dynamics and some having to give up their power.		✓										✓	
	Fascism, far-right, and authoritarian movements.	✓				✓			✓		✓		✓	
	Governments wanting growth to increase public budgets and pay for social services.			✓						✓				
	Lack of proper democracy.	✓											✓	
	Naturalized view of capitalism.	✓						✓						✓
	Political opposition (e.g., ESG debate in the US).											✓		
<i>Economic</i>	Capitalist system, structures, and path dependencies.	✓	✓	✓		✓	✓			✓			✓	
	Current business logic (profit-maximization, shareholder thinking, competition, etc.).	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓
	Current structure making sufficiency- or degrowth-based strategies impossible to implement in business without being bankrupt.			✓		✓								
	Degrowth discussions being too limited in their scope (e.g., focusing on niche areas).		✓											
	Economic critiques may not translate into action.			✓										
	Existing limitations on labor availability (different types of labor).											✓		
	Green growth thinking.											✓		
	International trade agreements.											✓		
	Misunderstanding or wrongly interpreting the term degrowth (as a negative economic contraction).				✓			✓						✓
	Money as a part of capitalism and capital accumulation.					✓	✓							
	Monopolies and big corporate players dominating the market.							✓						
	Naturalized view of capitalism.	✓												
	Shareholder thinking and extractive financing.				✓							✓		
	Sustainable business still being somewhat niche.									✓	✓			
	The monetary economy and failing to acknowledge its limitations and challenges.						✓							
Uncertainty around and types of funding instruments.						✓					✓			

Social	Capitalist system, structures, and path dependencies.	✓	✓	✓		✓		✓		✓				
	Consumerism and materialistic life views.	✓		✓	✓					✓				✓
	Fracture/divide within the degrowth movement.						✓							
	Having to potentially give up certain goods or benefits.				✓			✓			✓			
	Historical and cultural understanding of the economy (naturalized view of capitalism).	✓				✓								
	Pursuit of capital and wealth accumulation.	✓			✓			✓			✓			
	Social identity, status, success, and ‘the good life’ being tied to financial well-being and consumption.	✓	✓	✓		✓								✓
	Urbanization.					✓								
Technological														
Legal	Capitalist system, structures, and path dependencies.	✓		✓		✓				✓				
	Legal structure making the adoption of alternative ownership and governance structures challenging, potentially impossible.				✓			✓						
	Legal system oriented towards ownership.									✓				
Environment	Worsening climate crises (creating worse situations, leading to survival thinking, opening for authoritarian leaders, etc.).					✓		✓	✓					

Appendix C: Interviewees' descriptions of a degrowth business

Table 19 outlines the elements of a degrowth business identified by the interview participants. Note that the elements may, at times, overlap or be interrelated. The elements marked in grey align with or correspond with elements or criteria mentioned in the literature review on current conceptualizations on degrowth business models and frameworks. I.e., the element has been identified and discussed in one or more of the frameworks presented by Hankammer et al. (2021), Khmara and Kronenberg (2018) and/or Nesterova (2020).

Table 19: Interviewees descriptions of a degrowth business.

Dimension	Element	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
<i>Activism</i>	Organization is working to dismantle capitalist structures and rebuild them for a post-growth society.	✓												
	Organizations becoming political.	✓												
	Transition away from business to non-business organizational forms.	✓					✓						✓	
<i>Approach to business</i>	Adopts a non-capitalist or alternative understanding of business.	✓	✓	✓	✓	✓	✓	✓	✓				✓	
	Adopts new or non-financial metrics of success.		✓		✓		✓		✓	✓	✓			
	Decentralized.			✓		✓	✓							
	Facilitates a qualitative change away from consumerism, productivism, and material well-being.	✓		✓	✓	✓								✓
	Internal value change towards degrowth values.										✓			
	Mission and purpose beyond profits (e.g., to solve environmental or social issues).	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓
	Must facilitate sustainable consumption behavior and patterns (i.e., sustainable living).			✓		✓	✓							
<i>Environment</i>	Environmental sustainability is viewed as a key value.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Internalize externalities (account for social and environmental impacts).			✓										
	Minimize the use of fossil fuels in favor of renewable energy.			✓		✓	✓							
	Operate within the planetary boundaries.		✓	✓		✓	✓	✓	✓					✓
	Seek to understand the downstream and upstream environmental impact of the company and its products.			✓					✓			✓		

	Track environmental performance closely.								✓					
Growth strategy and size	Allow for organic growth.						✓		✓	✓				
	Allow for some companies to grow (industry- and context-specific consideration).		✓	✓	✓				✓	✓				
	Growth must be tied to meeting social needs.				✓	✓		✓	✓					
	Legal restriction or regulation on company growth and expansion.	✓				✓								
	Pledge to not grow in terms of resource use.												✓	
	Primarily small businesses.			✓		✓			✓	✓				
Location	Allow global operations and exchanges where necessary (e.g., as network structures).	✓	✓	✓	✓		✓	✓	✓			✓	✓	✓
	Full localization is not possible.	✓		✓				✓					✓	
	Seek to localize business activities and production.	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
	Significant reduction in global trade.			✓	✓	✓	✓	✓	✓			✓	✓	✓
Marketing	Avoid the creation of false or artificially created needs and coercive/manipulative marketing strategies.	✓	✓		✓	✓		✓	✓	✓		✓		✓
	Potential for banning advertisements in public spaces.			✓		✓		✓	✓		✓			
	Reduced marketing.		✓	✓	✓			✓	✓	✓				
	Repurpose as a communication and/or educational tool.		✓			✓		✓	✓		✓	✓		✓
	Stricter regulation on marketing.		✓							✓		✓		
Ownership and governance	Adopt a democratic governance structure.		✓	✓			✓	✓	✓		✓			
	Alternative ownership structures, e.g., cooperatives, foundation-owned, employee-owned, community-owned.	✓	✓	✓	✓		✓	✓	✓		✓			
Product	Aligned with degrowth principles.								✓					
	Avoid planned obsolescence.	✓		✓				✓	✓			✓		
	Convivial.								✓					
	Extended producer responsibility.			✓	✓									
	Facilitate access over ownership.				✓			✓					✓	
	Facilitate secondhand purchases and reuse of products.									✓				
	Improve reparability, maintenance, and durability of products.		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
	Less useless or harmful products.	✓	✓	✓	✓	✓	✓	✓	✓		✓			
Offer maintenance, repair, and/or upgrade services.			✓	✓							✓	✓		

	Potentially higher prices (to encourage less consumption, account for externalities, or ensure quality).			✓	✓							✓		
	Satisfies a genuine need rather than artificial want.	✓	✓	✓	✓	✓	✓	✓		✓	✓			
	Sustainable product design.	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Production	Conscious selection of suppliers based on social and environmental values.		✓											
	Efficient utilization of resources and energy.		✓		✓		✓		✓		✓			✓
	Eliminate or minimize the use of hazardous production practices and materials.							✓		✓				
	Embrace eco-sufficiency and circular economy principles (reduce, reuse, recycle).		✓	✓	✓		✓		✓	✓		✓		✓
	Reduce aggregate production and contribute to dematerializing the economy.		✓	✓	✓	✓	✓	✓		✓	✓			✓
	Reduce and avoid unnecessary material and energy throughput.		✓	✓		✓	✓			✓	✓			✓
	Reduce operating cycles and productivity.				✓			✓						
Profit and finance	Allow for profit generation.				✓				✓				✓	✓
	Avoid extractive profits (i.e., deviates from profit maximization).				✓	✓		✓	✓	✓			✓	✓
	Legal restrictions on profit.	✓												
	Must be non-monetary.						✓							
	Not-for-profit legal structure.	✓						✓	✓				✓	
	Profits are reinvested into the company.				✓				✓		✓			
	Provide easily accessible financial, social, and environmental performance reports.								✓					
Regulate or monitor profit generated.									✓					
Stakeholder relationships	Collaborative value creation and empowering customers.		✓				✓							
	Encourage and facilitate sharing of products.													
	Engages in community negotiations.		✓				✓		✓					
	Ensure accountability toward stakeholders.						✓		✓					
	Ensure mechanisms for stakeholder feedback.		✓				✓		✓					
	Respect for all stakeholders, human and non-human.		✓			✓	✓							✓
	Track social performance closely (measured in non-financial ways).								✓					
Views the company as a part of the local community.						✓								
Technology	Adopts convivial technologies.						✓							

	Considerate adoption of technology.	✓		✓		✓	✓			✓	✓	✓	✓	✓
	Emphasize social innovation.									✓				
	Encourage sharing of technologies.					✓								
	Low-tech (i.e., avoid resource- and energy-intensive technologies).					✓								
Values	Be non-accumulative and encourage sufficiency.	✓		✓	✓	✓	✓	✓					✓	✓
	Collaboration.	✓	✓			✓	✓	✓						
	Commoning and sharing.	✓					✓	✓						
	Conviviality.		✓						✓					
	Democratic, participatory, and inclusive.		✓	✓	✓	✓	✓		✓		✓			✓
	Ecological sustainability.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Embraces a broader perspective on value (non-financial).	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓
	Equality and equity.		✓								✓			
	Open-source, knowledge sharing.	✓		✓	✓		✓	✓						
	Social provisioning, meeting genuine human needs.	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓
	Support human relationships.		✓					✓						✓
	Temporality, i.e., ensuring the relevance of the business over time.				✓				✓			✓	✓	
	Transparency.								✓					
	Work and employment	Change the composition of work.		✓									✓	
Democratic and participatory workplace.			✓	✓			✓	✓	✓					
Encourage degrowth thinking among employees.					✓									
Facilitate work-sharing.										✓				
Fairer wages and compensations based on need.			✓		✓			✓	✓					
Meaningful employment.			✓			✓		✓	✓					
Move away from wage labor (can be reduced wage labor or full transition away from wage labor).		✓					✓	✓			✓			
Promote work-life balance for employees.				✓	✓			✓	✓		✓			
Reduced working hours.		✓	✓	✓	✓		✓	✓	✓		✓			
Respect and care for employees.			✓		✓	✓	✓	✓	✓					
Rotation system for tasks.			✓											
Space for human interaction.		✓					✓							

