
Master Thesis

*The lack of large investments in green startups by venture capital in Europe:
drivers, implications and measures to address the financing gap.*

Issued by: Justin M. B. Secker

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List of abbreviations

CFP	Corporate Financial Performance
E.g.	Exempli gratia
ESG	Environmental, Social and Governance
GP	General Partners
LP	Limited Partners
US	United States (of America)
VC	Venture Capital / Venture Capitalist

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Abstract

Startups play a critical role in the path to green growth, often exploiting opportunities ignored by incumbents. However, previous research emphasises that green startups have higher funding needs and tend to have uncertain exit options, high technological risk profiles and regulatory uncertainties that could be critical for conventional venture capitalists (VCs). This creates a severe funding gap caused by the mindset of short-term investors who seek short-term profits to meet performance criteria. This severe lack of funding for green startups works against all policies towards a green economy, such as the European Green Deal.

Therefore, we conducted an exploratory study with VCs. The results of the study contribute to the understanding of the drivers, implications and measures against the funding gap. To enable a potential shift towards more funding for green startups, a collective approach needs to be taken. An interplay of public money and policies that provide direction to sustain the well-being of us all, and private money that builds on that and enables the broad implementation and scalability needed. Furthermore, not only do VCs need to set a new focus, but this needs to be encouraged and demanded by limited partners and investing institutions. Furthermore, green startups need to move away from focusing solely on impact and start integrating profit and impact in a "lock-step" business model. In addition, consumers also need to start consciously investing their capital in things that drive change towards a greener purpose.

Keywords:

Venture Capital, Entrepreneurship, Green Economy, Green Startups, Financing Gap

1 Introduction to the green economy finance gap

The recent surge in popularity of the green economy concept has been fuelled by widespread outrage with our prevailing economic paradigm, which brought many crises and market failures in the first decades of this century (UNEP 2011; Beltramello, Haie-Fayle, and Pilat 2013). Furthermore, there have been concerning reports on the state of the earth's ecosystems caused by the severe impacts of anthropogenic climate change (World Meteorological Organization, 2020). These combined crises of ecology and economy have led to the demand for a new paradigm (Lutz, Zieschank, and Drosdowski 2015; UNEP 2011). The emerging and promising strategy has become the "green economy" (Lutz, Zieschank, and Drosdowski 2015). Within such an economy, growth would be driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency and prevent the loss of biodiversity and ecosystem services (Lutz, Zieschank, and Drosdowski 2015). A sophisticated startup ecosystem can aid in this matter and serve as a source of innovation across sectors embracing not only the development but also the market introduction of radical sustainable innovation (Weiß and Fichter 2013). For this reason, startup companies play a crucial role in moving towards green growth, as they often exploit opportunities ignored by incumbent firms (Criscuolo and Menon 2015). However, startups vary significantly from established companies as their technologies, products, and services are still constantly evolving and they have to deal with limited resources as well as limited knowledge of markets (Picken, 2017; A Skala, 2019). Therefore, there is the "general agreement" on the central role of financial support by various advocates such as venture capitalists (henceforth VC) (Spender et al. 2017). Yet, existing research emphasizes that green startups have a higher financing requirement and tend to have uncertain exit opportunities, high technology risk profiles, and regulatory uncertainty

(Criscuolo and Menon 2015; Polzin 2017; Rizos et al. 2016; Caprotti 2012; Gaurav et al. 2019). This results in a potential conflict between the fundamental triple bottom line of economic, environmental, and social value creation and potential required short-term profits (Shepherd and Patzelt 2011). However, studies indicate that applying environmental, social or governance (hereafter ESG) practices do not only help to lower the cost of capital and managing volatility but farther have a clear positive operational outperformance (Clark, Feiner, and Viehs 2015; State Street Global Advisors 2017; Desclée et al. 2016; Friede, Busch, and Bassen 2015; Khan, Serafeim, and Yoon 2016). Nevertheless, focusing on early investments a recent study indicates that financial returns for impact investments are lower than the markets, which might be critical for conventional VCs (Barber, Morse, and Yasuda 2021).

VCs have been an important financing source for innovative startups by fixing an important principal-agent issue when connecting financial resources with good ideas (Kaplan and Stromberg 2001; Zacharakis and Meyer 2000; Paul A. Gompers et al. 2020). However, most VCs look for short-term investments that can be scaled and led towards an exit within approximately five to seven years (Rudden, 2020). This results in a severe financing gap caused by short-term investor's mindset pursuing short-term profits to meet performance criteria (Owen, Brennan, and Lyon 2018). This can also be observed by the study of the German Startup Monitor, which detected that larger investors, in particular, are conspicuous by their absence among green startups (Olteanu and Fichter 2020). The discrepancy is glaring when it comes to VC where after all 17 percent of conventional startups receive capital from VCs, but only 9 percent of green startups do (Olteanu and Fichter 2020). This severe lack of financing for green startups counteracts against all political measures towards a green economy such as the European Green Deal which will mobilise at least €1 trillion of investments over the course of 10 years (European Commission, 2020). As pointed out by the president of the European Commission Ursula von der Leyen: “public finances alone will not be enough” and that we need to “tap into

private investment by putting green and sustainable financing at the heart of our investment chain and financial system” (European Commission, 2020).

Therefore, we conducted explorative research to understand the VCs financing gap on green startups in more detail. Our goal was to understand the targeting criteria, selection process, and the opinions of VCs about investing in green startups. Practical recommendations will be discussed.

2 Theoretical models

This section elaborates the theoretical background of the study and explores scholarly frameworks on the topic. Furthermore, we provide insights and the latest trends on the matter. Initially, we illustrate the green economy and green startup ecosystem in more detail, and subsequently, we describe the venture capital industry, its criteria, and processes as well as trends and latest developments.

2.1 The Green Economy and the Startup Ecosystem

2.1.1 Derivation of the Green Economy

The green economy is a term that increasingly appeared in the mainstream public debate (Sulich, 2018). This recent surge in popularity of the green economy concept has been fuelled by widespread outrage with our prevailing economic paradigm, which brought many crises and market failures in the first decades of this century (UNEP 2011; Beltramello, Haie-Fayle, and Pilat 2013). Furthermore, there have been concerning reports on the state of the earth's ecosystems caused by the severe impacts of anthropogenic climate change, including the track of the three warmest years on record and the record high of the ocean's temperature (World Meteorological Organization, 2020). These combined crises of ecology and economy have led to the demand for a new paradigm, where material wealth is not carried at the expense of growing environmental risks, social disparities, and ecological scarcities (Lutz, Zieschank, and Drosdowski 2015; UNEP 2011). One emerging and promising strategy has become the "green economy" (Lutz, Zieschank, and Drosdowski 2015). Thus, the question emerges: What exactly is a green economy?

According to the United Nation Environment Program (henceforth UNEP), a green economy regards as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities (UNEP, 2011). In practical terms, a green economy can be defined as low-carbon, resource-efficient, and socially inclusive (UNEP, 2011). Thus, the term green economy is frequently used as an “umbrella” concept which includes also elements of Circular Economy, Bioeconomy, Eco-tourism, Education as well as nature-based solutions (D’Amato et al. 2017). Within such an economy, growth is driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency and prevent the loss of biodiversity and ecosystem services (Lutz, Zieschank, and Drosdowski 2015). However, these investments would need to be catalysed and supported by targeted public expenditures, policy reforms and regulation changes (UNEP, 2011). This will require substantial increases in investment in sectors that build on and contribute to the Earth’s natural capital or reduce environmental scarcity and environmental risks (Tulebayeva et al. 2020). Thus, there has been the call for a new definition of growth. The OECD (2015) stresses the necessity to reframe growth by highlighting that further economic opportunities are needed to improve the living standard of the uprising population. However, the risks of growth are increasing as conventional growth models negatively impact the environment that ultimately underpins human well-being. Hence, green growth is needed. The OECD defines it as “fostering economic growth and development while ensuring that the natural assets continue to provide the resources and environmental services on which our well-being relies. To achieve this it must catalyse investment and innovation which will underpin sustained growth and give rise to new economic opportunities” (OECD, 2011). Therefore, green growth presents an element of green development towards the green economy (Sulich, 2018). Interesting here is that the decisive factors seem to be innovation and novel investment

strategies. The central elements of the Green Economy and its counterpart, the so-called Brown Economy, have been summarised in the following table to show the distinctive differences.

Table 1 Differentiation between green and brown economy

Brown economy	Green Economy
“Unlimited” economic growth	Separating economic growth from the consumption of natural resources
Non-renewable energy sources	Renewable energy sources
Intensive consumption of natural resources	Energy efficiency
Greenhouse gas emissions	Clean production
Destruction of biodiversity	Biodiversity protection
Global social inequalities	Intergenerational and interregional justice
Lack of CSR of Businesses and Investors	CSR of Businesses and Investors
Weakening of social trust	Rising social trust

Source: Created by the author based on Sulich 2018

However, with the term “green” comes a serious issue, for instance, greenwashing. This regards the distribution of false or incomplete information by an organization to present an environmentally responsible public image (Furlow, 2010). The creation of environmental misinformation has become such a concern, that EnviroMedia established the Greenwashing Index to monitor environmental claims used by corporations (Miller, 2008). The serious concern is not only that it deceives consumers, but also that if immoral marketers continue to claim to be environmentally friendly, actual environmentally friendly companies lose their competitiveness. In addition, overuse and misuse of the “green” claims can saturate the market to the point that the greenness of the product may become meaningless to the consumer (Zimmer, Stafford, and Stafford 1994). Thus, it needs to be unmistakably differentiated between “being green” and “looking green”.

2.1.2 Green Startups

To define a green startup, it is necessary to define the term startup first. There is no general agreement on the definition of a startup and therefore, selected definitions that are stressing the various aspect of it are provided in the table below.

Table 2 Selected startup definition

Author	Definition of startup
Eric Ries (2014)	“A human institution that develops a new product or service in an environment of extreme uncertainty.”
Steve Blank (2013)	“A temporary organisation formed to search for a repeatable and scalable business model.”
Clayton Christensen (Skala 2019).	“Organisations that create breakthrough innovations, which can lead to a potential change in market paradigms in the long run.”
Green Startup Monitor (Kollmann et al. 2020)	“A company that is younger than 10 years, has a planned growth in turnover and/or is highly innovative in their products, services, business models or technologies.”
Dave McClure (2014)	“A “startup” is a company that is confused about, what its product is, who its customers are, and how to make money. As soon as it figures out all three things, it ceases to be a startup and then becomes a real business. Except most times, that doesn’t happen.”

Source: Created by the author

Ries’s definition emphasizes the intense risks these organisations are working with as well as the focus on the development of the product. Steve Blank clearly emphasizes that “startups are not smaller versions of larger companies” and that one of the critical differences is that existing companies execute a business model, whereas startups are looking for one (Blank, 2013). Yet, Steve Blank identifies startups by their goals and intentions, functions and

financing structure (Agnieszka Skala, 2019). The goals need to be very ambitious and the objective must be to either disrupt or create new markets (Blank, 2013). Additionally, the financing structure of startups in an advanced stage show investments from external investors (Blank, 2013). Within Steve Blank's definition words like "new" or "innovative" are not included which indicate a clear focus on the ambitions and dynamics and external sources of financing (Agnieszka Skala, 2019). Clayton Christensen, who was a professor at Harvard Business School and one of the visionaries of innovative entrepreneurship, focused his definition on the disruptive element of startups (Agnieszka Skala, 2019). All the definitions explain why not every newly created company is a startup, nonetheless, Paul Graham, who is well known for cofounding Y Combinator, which is an influential startup accelerator and seed capital firm, depicts it very clearly: "Millions of companies are started every year in the US. Only a tiny fraction are startups. (...) The only essential thing is growth. That's the difference between Google and a barbershop. A barbershop doesn't scale" (Graham, 2016).

Despite the lack of one single definition the benefits of a great startup ecosystem for an economy are well known. Startups represent a key role as powerful engines for open innovation (Spender et al. 2017). Furthermore, they are received as key building blocks for dynamic and competitive economies by reducing inefficiencies, boosting economic development and creating jobs (The World Bank, 2019). Moreover, they serve as a source of innovation across sectors embracing not only the development but also the market introduction of radical sustainable innovation, whereas incremental innovation tends to be "the turf" of conventional businesses (Weiß and Fichter 2013). However, this idea has recently been challenged, indicating that it is also reasonable for large companies to embrace the disruptive innovation theory as well (Si and Chen 2020; O'Reilly and Binns 2019). Nevertheless, startup companies play a crucial role in moving towards green growth, as they often exploit opportunities ignored by incumbent

firms (Criscuolo and Menon 2015). However, startups vary significantly from established companies as their technologies, products and services are still constantly evolving and they have to deal with limited resources as well as limited knowledge of markets (Picken, 2017; A Skala, 2019). Consequently, financing is desired as it enables a greater level of flexibility on the part of the entrepreneur. Therefore, there is a “general agreement” on the central role of financial support by various advocates such as VCs (Spender et al. 2017).

Having framed the term startup, we now focus on green startups. How does it differ from a non-green startup? The wording ‘green’ might be understood solely as an environmental aspect, however, a green business, in general, is much more than simply ecological. The following table will provide definitions for green businesses used in the literature.

Table 3 Green Business definitions across literature

Authors	Description
(Zsolnai, 2002)	“...companies, which are (...) ecologically conscious and want to make their profit with “green conscience”. (...) Green companies typically represent a middle way between two conflicting paradigms of our age, the industrial worldview and the ecological worldview.”
(Makower and Pike 2008)	“a green business requires a balanced commitment to profitability, sustainability and humanity.”
(Cambridge Dictionary, 2021)	“A way of doing business that protects the natural environment.”
(Khanal, 2018)	“An enterprise performing business activities with the minimal negative impact on the local or global environment, society or community.”
(Ian Barnes, Hala Razian, 2019)	“boosting sustainable economic growth and tackling global development challenges, while preserving global natural resources and securing the well-being of future generations.”

(Callicott and Frodeman 2009)	“Green business involves the commercial provision of goods and services in a manner that minimizes environmental damages or provides environmental benefits beyond the requirements of the law. In some cases, companies dedicate themselves to minimal or net-positive impacts on the environment.”
(Majurin, 2017)	“making money but (...) doing so while sustainably harnessing opportunities that nature holds, and without harming the environment.
(Olteanu and Fichter 2020)	“contribute to the environmental objectives of a Green Economy.”
(Friend, 2009)	“Makes sense in the short and long term, for itself, its owners and employees and the living system that supports it. It operates lean, clean, and green. Uses “green” to build profit and competitive advantage and to reduce risk. Prospers by embedding the laws of nature at the heart of the enterprise.”

Source: Created by the author

It becomes clear that “being green” can be understood as being sustainable which is based on the sustainability triangle and thus, includes ecology, economy and social aspects (Slaper, 2011; Spindler, 2011). Therefore, green startups can be seen as a category of startups that develop and implement products or services that contribute to the goals of a green economy, such as reducing GHG or adopting a circular economy approach (Gaurav et al. 2019). The Green Startup Monitor simply adds to their conventional Startup definition the “contribution to the environmental objectives of the Green Economy” (Olteanu and Fichter 2020). Therefore, we define green startups as early companies with a sustainable business model that fosters green economic growth that minimizes the negative impact on the local or global environment, society or community.

Nevertheless, there seems to be a wide diversity of products and services within green startups. The markets and institutional or regulatory environments influencing green startups

determine the challenges and opportunities experienced by these (Bergset and Fichter 2015). However, it is necessary to establish a distinction between non-profit or non-governmental led initiatives (NPOs and NGOs) and sustainable entrepreneurship as it operates within a financial business context that requires to be self-sustaining in the medium to long term (Thompson, Kiefer, and York 2011; Shepherd and Patzelt 2011). This distinction is critically important for the typical financing sources that expect a significant return on investment (Gaurav et al. 2019). But is the only differences between conventional and profit-oriented green startups their focus towards a green economy? Arguable, because on the one hand the OECD (2013) analysis indicates that green innovations have the potential to make companies more competitive but further existing research also emphasize that cleantech companies, such as solar or biomass, have a higher financing requirement which is applicable for most green startups (Caprotti 2012; Gaurav et al. 2019). Furthermore, green ventures tend to have uncertain exit opportunities, high technology risk profiles and regulatory uncertainty (Criscuolo and Menon 2015; Polzin 2017; Rizos et al. 2016). All these characteristics influence the possibilities for integrating and assessing sustainability impact (Lingane and Olsen 2004; Schneider and Veugelers 2010). This results in a potential conflict between the fundamental triple bottom line of economic, environmental, and social value creation and the short-term profits resulting in a situation where financing green startups could be substantially more challenging compared to conventional startups (Shepherd and Patzelt 2011).

2.1.3 Theoretical background to ESG investing

After assessing the potential conflict between ESG and short-term profits, the question emerges whether ESG oriented business do have a lower financial return? This is especially relevant because, within the financial markets, sustainability has been one of the most significant trends for the past decades and resulted in a total amount of more than 22.9 trillion USD in 2016, which is over a quarter of the world's professionally managed assets during that time (Clark, Feiner, and Viehs 2015; State Street Global Advisors 2017). Therefore, strong momentum to change the financial services landscape exists (KPMG, 2021). This resulted in many studies and surveys about this topic from renowned institutions such as Harvard and Oxford. Within a study from the State Street Global Advisors, the increasing interest in ESG credentials among institutional investor is explained by its recognition as material to long-term financial outcomes (State Street Global Advisors, 2017). However, the expectations for ESG are driven by a non-compromise approach, meaning that they are the same as for other investments (State Street Global Advisors, 2017). Another large meta-study on the ESG-CFP relation draws two important conclusions based on more than 3700 study results from more than 2200 unique primary studies. Firstly, it states that opportunities for ESG outperformance exists in various areas of the market and secondly, that these opportunities have been stable over time since the 1990s (Friede, Busch, and Bassen 2015). Thus, the question arises: Have they been exploited?

The studies indicate that applying ESG practices does not only help to lower the cost of capital for firms but also helped them with managing volatility (Clark, Feiner, and Viehs 2015; State Street Global Advisors 2017). Moreover and farther importantly, all studies taken into considerations state a clear positive operational outperformance when ESG practices are applied (Clark, Feiner, and Viehs 2015; State Street Global Advisors 2017; Desclée et al. 2016; Friede, Busch, and Bassen 2015; Khan, Serafeim, and Yoon 2016). Furthermore, within the

research from Barclays IB, they also emphasize that there was no evidence found of a negative impact on performance, that ESG attributes did not affect the bond prices and that there is no evidence that the advantage was due to a change in relative valuation (Desclée et al. 2016). This also corresponds to the results from Oxford wherein 80 percent of the studies the stock prices were positively influenced (Clark, Feiner, and Viehs 2015). However, it exists a difference in performance when applying ESG criteria separately. The strongest positive effect was achieved for Governance factors whereas the weakest positive effect was indicated for Social aspects (Desclée et al. 2016). Nonetheless, there are also challenges with the benchmarking, clear terminology and concerns around data and performance measures (State Street Global Advisors, 2017). Furthermore, a more recent study focusing on early investments states that investors must be “willing to forego 13 to 18 percentile ranks of vintage-geography benchmarked performance or about 2.5 to 3.7 ppts in expected excess IRR on average” when investing in green ventures (Barber, Morse, and Yasuda 2021). Still, a call to affiliate investor’s interests with the wider objectives of society to fulfil their fiduciary duties was made (Friede, Busch, and Bassen 2015; Clark, Feiner, and Viehs 2015; Desclée et al. 2016). This has also been increasingly called for in politics.

In the past decades, it can be seen that “on a national scale, several countries are developing green economy strategies, policies and programs” (Loiseau et al. 2016). For instance, the federal government of Germany created the German Sustainable Development Strategy which depicts not only the political challenges of our times but also the sustainability indicators and objectives Germany desires to enable and achieve (The Federal Government, 2017). Nevertheless, due to the pure nature of climate change and the associated issues, a fundamental transformation on a solely national or continental level will not suffice. Hence, history was made in Paris on the 12th of December in 2015, when the Paris Agreement was adopted (United Nations, 2015). After many years of intensive negotiations, the total number of 197 countries

committed themselves to change the global economy in a climate-friendly way (Wadhwa et al. 2018). This is a historic step because under the previous regulation, the so-called Kyoto Protocol, only some industrialised countries were obliged to reduce emissions (BMU, 2017). But now key players, such as the European Union, China, Canada, Great Britain, South Korea, and Japan, have committed to making their societies climate-neutral by the middle of this century and even the (temporary) withdrawal of the USA from the agreement could not stop this trend (BMU, 2020). In 2017 the Secretary-General Guterres declared: “those that will be betting on the implementation of the Paris Agreement, on the green economy, will be the ones that have a leading role in the economy of the 21st century” (United Nations, 2017).

The European Union strives to be the first climate-neutral continent by 2050 and therefore, created the European Green Deal (European Commission, 2019). “The European Green Deal is our plan to make the EU's economy sustainable. We can do this by turning climate and environmental challenges into opportunities and making the transition just and inclusive for all”(European Commission, 2019). To achieve the green ends, the European Green Deal Investment Plan will mobilise at least €1 trillion of investments over the course of 10 years (European Commission, 2020). However, public investments alone are not enough and there is a need to tap into private investment by putting green and sustainable financing at the core of the investment chain (European Commission, 2020). Therefore, the cooperation between private and public sectors represents the fundamental basis that is obligatory for a successful change. The public sector will lead the way but the private investors will need to provide the scale (European Commission, 2020). As innovation and novel investment strategies are essential to drive the shift towards a green economy, and especially as the government relies on the private sector to facilitate change, the question is: Why are VCs investing less in these types of startups? To understand this, we will elaborate on the VC decision-making process in the next section.

2.2 The Venture Capital Industry

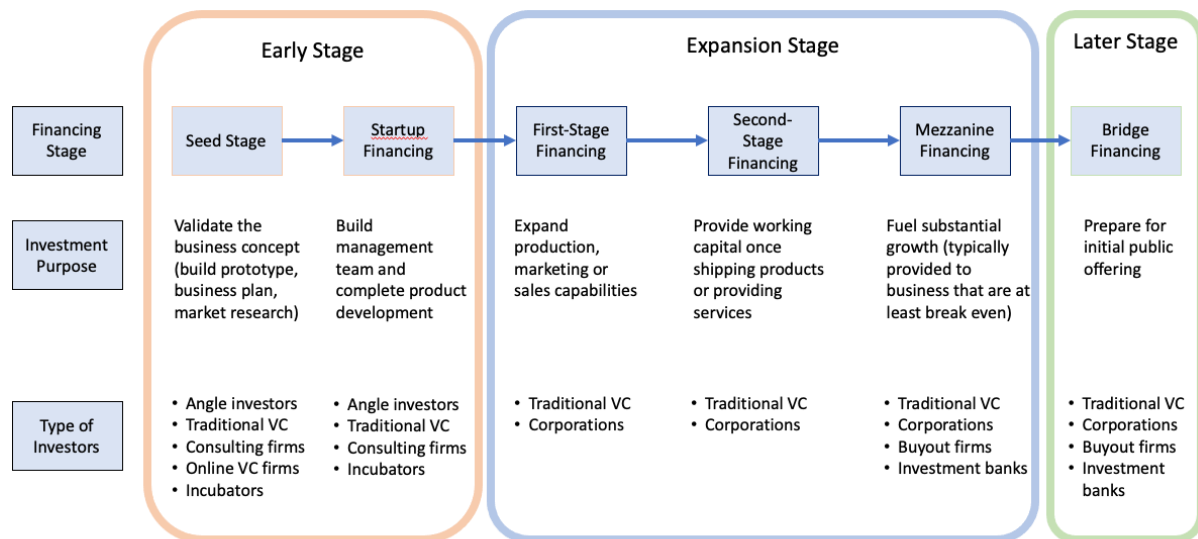
2.2.1 Venture Capital Overview

Venture Capital, Business Angels, Corporate Venture Capital and more recently crowd-funding and accelerators represent the key sources for entrepreneurial equity investments that drive innovation and development (Drover et al. 2017). Especially, VCs have been an important financing source for innovative startups (Gompers et al. 2020) and over the last years, the total value of the global VC investments increased steadily. Even in Europe, a smaller market in comparison to the US industry, the total value of investments boosted during the period from 2013 to 2019 from 6.5 billion euros to almost 40 billion euros (Statista, 2019). This underlines the increasing importance of early equity investments for startups which have proven to be important drivers of economies (Gorman and Sahlman 1989). Recently, it has been estimated that approximately half of all real IPOs are VC-backed, despite less than one-quarter of one percent receive venture financing (Paul A. Gompers et al. 2020). Furthermore, VC backed companies accounted for 21 percent of the total market capitalization in 2014 in the US and up to 44 percent of the research and development spending of US public companies (Gornall and Strebulaev 2015). This even led to VC funds outperforming on average the public markets net of fees (Harris, Jenkinson, and Kaplan 2014). Therefore, VCs can be seen as an instrument that solves an important principal-agent issue in market economies by connecting good ideas (entrepreneurs) with investors possessing financial resources for execution (Kaplan and Stromberg 2001; Zacharakis and Meyer 2000).

To better understand where this performance is coming from, the venture capital structures and processes will be depicted in more detail. Within the field of entrepreneurial equity investments, there is a distinction between different stages (Zider, 1998). These include the

early, the expansion, and the later stage. The investment purpose as well as the types of investors can be extracted from the graphic below.

Figure 1 Stages of Funding



Source: Created by the author based on Zider 1998

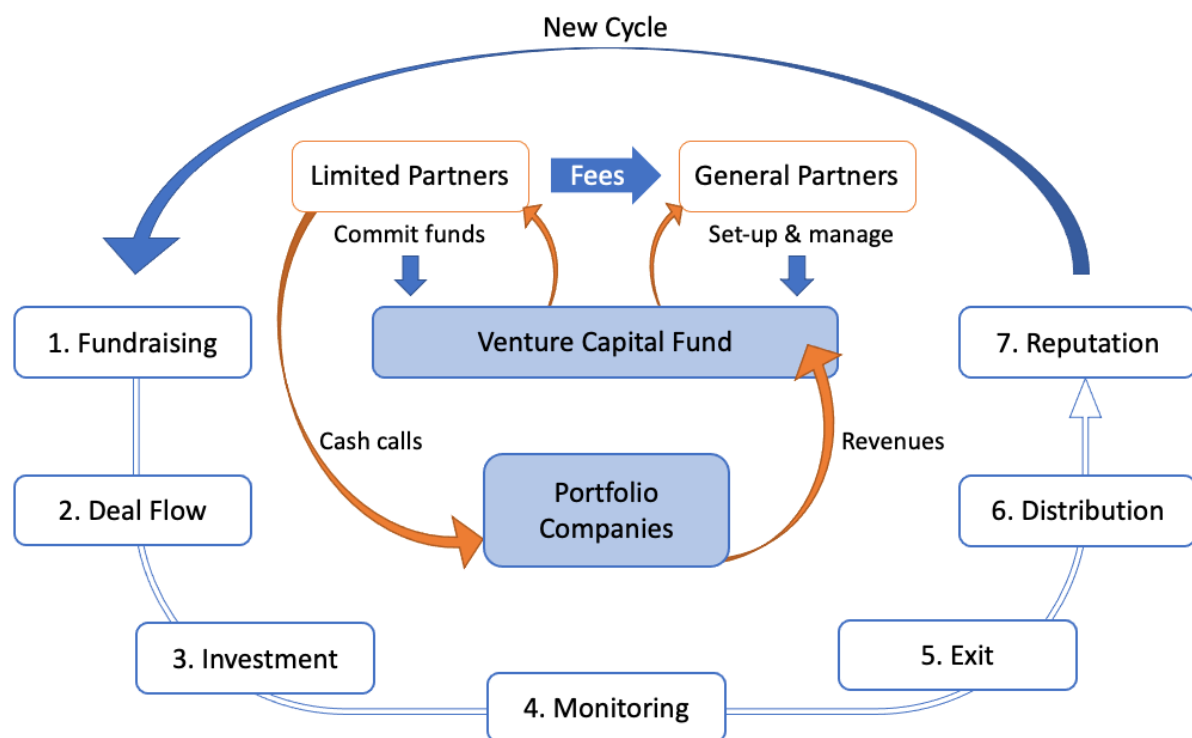
These investments to early-stage, innovative and high-growth startups typically entail a high level of risk but also include the potential for substantial upside (Cumming 2012; Drover et al. 2017). Mostly, a big number of entrepreneurial equity investments fail and return less than the face value of the investment despite being made by highly skilled investors (Kerr, Nanda, and Rhodes-Kropf 2014). The common rule of thumb is that out of ten startups three to four fail whereas, another three to four return the original investment and solely one or two produce significant returns (Gage, 2012). Nonetheless, non-backed ventures fail more frequently because they lack the capital to keep going (Gage 2012; Payne et al. 2009; Zacharakis and Meyer 2000). However, when looking at VCs more specifically, it is crucial to understand that the VC firms do not just act as portfolios for risky startups but are “conducting a portfolio

of tests across several highly uncertain ideas with skewed economics“ (Kerr, Nanda, and Rhodes-Kropf 2014). Yet, due to the high risks, VCs are devoting significant resources to understand markets and new technologies as well as finding, financing and coaching promising startups through the early part of their lives (Davila, Foster, and Gupta 2003). To reach the next stage of the innovation life cycle, which is the period where a company begins to commercialize its innovation, is where venture money can play a vital role (Zider, 1998). It is estimated that the majority of the invested money is used to construct the essential infrastructure to grow the business (Zider, 1998).

The non-capital inputs by VCs provide special value to early-stage startups (Black and Gilson 1997). VCs take an active role in ventures via various control mechanisms, providing management assistance and personal interaction which fundamentally contributes to an increased value of the venture firm (Zacharakis and Meyer 2000; Macmillan, M.Kulow, and Khoylian 1989; Sapienza and Gupta 1994; Bygrave and Timmons 1992). Furthermore, there is the reputational capital and the intensive monitoring of performance which the VCs provides to portfolio company (Black and Gilson 1997). Therefore, when financing one to two years of a startup, VCs expect a high multiple on return of capital over a few years (Zider, 1998). Additionally, once a VC identifies the ventures that deliver positive outcomes, they pursue them intensively to scale the promising candidates up. Then, to maximize return, despite owning shares of the firms that turn out to be successful, they attempt to cut their losses on the unsuccessful endeavours as early as possible. This is decisive because VCs are required to provide sufficient returns to attract limited partners as well as sufficient upside potential for entrepreneurs to attract high-quality innovations that will lead to high financial returns (Zider, 1998). Therefore, to put the overall objectives of VCs simply, it can be said that ”the challenge is to earn a consistently superior return on investments in inherently risky business ventures“ (Zider, 1998).

To facilitate a more in-depth understanding of what is driving the VCs, the structure will be analysed. Firstly, the venture capital cycle will be explained briefly due to the long-lasting effects the features of the private equity funds have on their behaviour (Paul Alan Gompers and Lerner 2004). To put it simply, the cycle can be divided into four different stages starting with the capitalists raising funds, then matching and investing in startups, where afterwards both parties take active roles in the implementation and lastly, the stage where capitalists exit the mature ventures to start a new cycle (Silviera and Wright 2006). The graph below illustrates the cycle more gradually.

Figure 2 Venture Capital Cycle



Source: Created by the author based on Gompers and Lerner (2006); Pinho (2021)

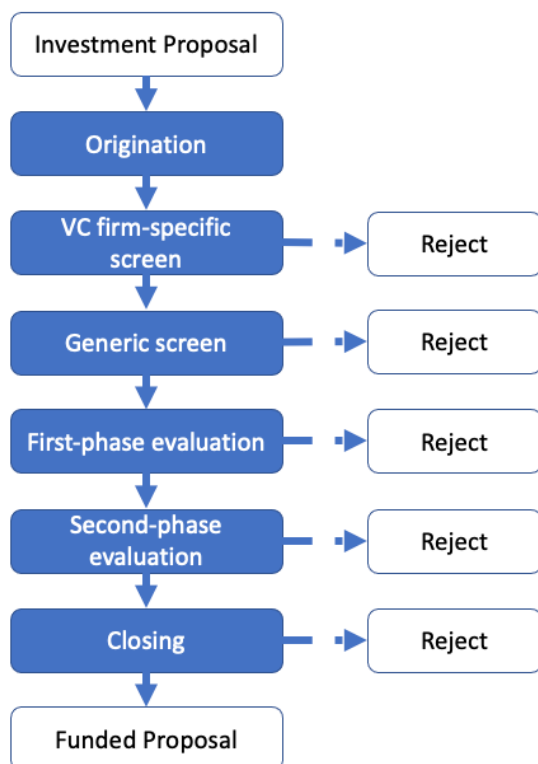
Two important aspects are necessary to highlight in this structure: the financing relationship and its implications on the timeframe and exit. Roughly, two-thirds of all VCs are

organized as limited partnerships meaning the VC serve as general partners (henceforth GPs) and the investors as limited partners (henceforth LPs) (Sahlman, 1990). Within this GP LP relationship, there are three main challenges. Firstly, capital providers need to evaluate the skills of the GPs to decide whom to give the money to, secondly, they need to assess the risk and returns to compare to other investments and lastly, they need to have the ability to withdraw funds from less successful GPs (Black and Gilson 1997). To encounter these challenges exits from ventures are used as benchmarks since they let LPs evaluate and if necessary withdraw capital (Black and Gilson 1997). Therefore, the typical agreement sets a maximum time period for the partnership of seven to ten years, after which the partnership must be liquidated (Sahlman, 1990). However, VCs have a strong incentive to exit even well before, if feasible, because the fund's performance is based on completed investments and represents the primary instrument for soliciting investors for new funds (Black and Gilson 1997). It is the dominant evidence of accountability to capital providers. Therefore, most VCs look for short-term investments that can be scaled and led towards an exit within a couple of years.

2.2.2 Venture Capital Decision Making Process

After deriving one of the central elements that drive VCs, a more detailed look at the decision making process and the criteria they used will follow. In general, VCs do not have much time to take decisions but moreover, they need to decide under high uncertainty (Carnahan, Agarwal, and Campbell 2010). Further, as soon as an investment decision is made, the investment becomes illiquid and its success highly depends on a small team of entrepreneurs and managers (Fried and Hisrich 1994). Therefore, the initial decision is highly critical. Even though there is not one model that is used by all VCs, Fried and Hisrich advanced a model which is widely acknowledged. The labour-intensive and time-consuming process contains six stages which can be extracted below (Fried and Hisrich 1994).

Figure 3 Venture Capital Investment Process

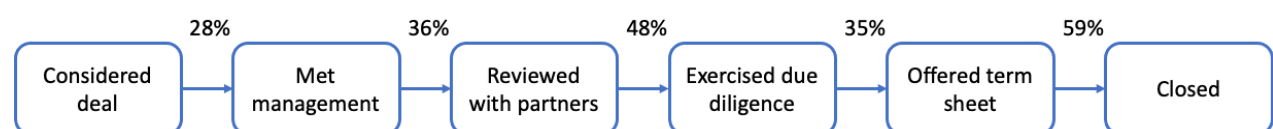


Source: Created by the author based on Fried and Hisrich (1994)

The first stage deals with the origin of the deals, which can either be sent directly from entrepreneurs or be referred via the VCs network (Fried and Hisrich 1994). Then, a firm-specific screening eliminates all proposals that do not meet the specific investment criteria that usually are based on investment size, industries, geographics and stage of financing (Fried and Hisrich 1994). In combination with the generic screen, which is without extensive review and solely analyses the deal in terms of generic criteria, most proposals get rejected with a marginal investment of time (Fried and Hisrich 1994). Afterwards, the in-depth due diligence is conducted. Within the first phase, the objective is to evaluate whether there is serious interest in the deal, by analysing intensively the internal and external factors of the venture, whereas the second phase focuses on determining potential obstacles and how to overcome these (Fried and Hisrich 1994). Within the last stage, the closing, details of the financing structure and legal documents are negotiated and finalised (Fried and Hisrich 1994).

The modern way of describing deal sourcing is a multi-stage selection process which is referred to as the deal funnel (Paul A. Gompers et al. 2020). The following illustration depicts the subsequent stages.

Figure 4 Deal funnel



Source: Created by the author based on Gompers et al. 2020

When a deal is generated the individual originator completes the first evaluation and if a certain potential is detected meetings with the management of the prospective portfolio company will be arranged (Paul A. Gompers et al. 2020). If the deal continues to show potential

the investment will be examined and evaluated by others partners at the VC firm (Paul A. Gompers et al. 2020). Subsequently, a due diligence will be initiated that includes inter alia reference calls, industry analysis and peer comparison. If the company passes the intensive analysis the VC will present its terms and, if accepted, legal documents and letter of commitments are signed (Paul A. Gompers et al. 2020). Due to the great amount of time and effort invested during due diligence and negotiation, VCs must minimize their effort during screening and hence, only the deals with most potential proceed to the next stages (Zacharakis and Meyer 2000). Recent surveys show that for each deal the firm is closing the firm considers approximately 100 other potential opportunities. Therefore, VCs need to have a broad funnel to extract promising investments (Sahlman, 1990). This further implies that if not everything about the venture is attractive, they will have a hard time raising money.

2.2.3 Venture Capital Criteria

After understanding the way the decision process is constructed and how slim the chances are to close a deal, it is necessary to consider the factors and criteria on which the VCs base their decision. Forgoing empirical evidence indicates that VCs have different focus points when it comes to investment selection (Paul A. Gompers et al. 2020). Repeatedly the metaphor of the horse race is used in VC when it comes to selection criteria. Some focus on the jockey (management team), while others focus more on the horse (the business, the product, the technology and the business model) and the stadium (the market) must also not be disregarded (Paul A. Gompers et al. 2020). An overview of 15 important investment criteria, compiled by Kollmann and Kuckertz, with their empirical evidence of relevance can be found below.

Table 4 Important investment criteria for VCs

Important investment criteria for VCs		
Factor	Investment criteria	Evidence of criterion's relevance
Personality of entrepreneur	"VC character"	Pretest
	Leadership capabilities	Macmillan et al. 1985, Robinson 1987
	Commitment	Dixon 1991, Muzyka et al. 1996
Experience of entrepreneur	Track record	Flynn 1991
	Technical qualification	Shepherd 1999, Franke et al. 2006
	Business qualification	MacMillian et al. 1985, Mason and Stark 2002
Product & Service	Innovativeness	Shepherd 1999, Franke et al. 2006
	Patentability	Tyebjee and Bruno 1984, MacMillan et al. 1985
	Unique selling proposition	Mason and Stark 2002
Market characteristics	Market volume	Tyebjee and Bruno 1984, Mason and Stark 2002
	Market growth	Tyebjee and Bruno 1984, Mason and Stark 2002
	Market acceptance	Tyebjee and Bruno 1984, Mason and Stark 2002
Financial characteristics	Fit for investment strategy	Muzyka et al. 1996, Mason and Stark 2002
	Return on investment	Tyebjee and Bruno 1984, MacMillan et al. 1985
	Exit possibilities	Muzyka et al. 1996, Mason and Stark 2002

Source: Created by the author based on Kollmann and Kuckertz 2010

However, some criteria seem to be more important than others and therefore, within the study conducted by Gompers, Gornall, Kaplan and Strebulaev the VCs did not only indicate factors of importance but also ranked them. Interestingly enough was that 95 percent of the VC firms mentioned the team as an important factor and in addition nearly half stated it was the most important factor of all (Paul A. Gompers et al. 2020). This criterion seems to be important throughout the past decades as already in 1985 the quality of the entrepreneurs was mentioned as the ultimate factor that determines the funding decision (Macmillan, Siegel, and Narasimha 1985). Yet, particularly for early-stage investors, the team is of utmost importance due to the higher uncertainty concerning the business at the early stage (Kollmann and Kuckertz 2010;

Paul A. Gompers et al. 2020). Additionally, it must be stressed that evaluating these criteria is extremely hard (Kollmann and Kuckertz 2010). Furthermore, other criteria such as the business model (84%), the product (81%), the market (74%), the VC fit (48%), the valuation (47%) and the ability to add value (44%) were declared as important factors (Paul A. Gompers et al. 2020). These results, especially the average importance of the market and the minor importance of the fit, correspond to other publications (Kollmann and Kuckertz 2010). Below you can find a table indicating the outcomes for the most important factors divided for early-stage and late stage of the survey. Here it becomes clear that the team is by far the crucial evaluation aspect.

Table 5 Most important factors for investment selection

Important Factors for Investment Selection		
Most important Factors	Early Stage Percentage (%)	Late Stage Percentage (%)
Team	53	39
Business Model	7	19
Product/Technology	12	8
Market	7	11
Industry	6	4
Valuation	0	3
Ability to add value	2	2
Fit for fund	13	13

Source: Created by the author based on Gompers et al. 2020

2.2.4 Deriving the financing gap

Financing gaps occur when companies investment demand is not met by financing providers (Owen, Brennan, and Lyon 2018). Especially in the aftermath of the global financial crisis, deficits in early-stage risk investment and financing gaps have been observed in many G20 countries (Owen, Brennan, and Lyon 2018). This general problem seems to be more severe for the diverse forms of green ventures due to the reasons mentioned above (Criscuolo and Menon 2015; Polzin 2017; Rizos et al. 2016). Furthermore, early-stage businesses with new technology can lack a track record that is required by private investors to assess the risks of the venture (Owen, Brennan, and Lyon 2018) Even more significant are the substantial information asymmetries (Carpenter and Petersen 2002). Outside investors lack the specialist knowledge of green technology or service which result in difficulties in assessing the risk and a higher cost of performing the due diligence for each investment (Owen, Brennan, and Lyon 2018; Carpenter and Petersen 2002). This further reinforces the financing gap. Moreover, in the context of climate change, innovation tackling the issues might require timeframes over decades. The lack of such results in an even more severe financing gap caused by short-term investor's mindset pursuing short term profits to meet performance criteria and the demands of annual financial reporting to asset owners (Owen, Brennan, and Lyon 2018).

Despite the increase in awareness over the past years, even the latest research showed that there is still a financing gap. The raising of capital is a much greater challenge for green startups, specifically for very innovative green startups (Olteanu and Fichter 2020). More precisely, within the study about the german startup ecosystem, where more than 1,570 startups were questioned, it was detected that larger investors, in particular, are conspicuous by their absence among green startups (Olteanu and Fichter 2020). While 25 percent of conventional startups can finance themselves with business angels, only 17 percent of green startups were

currently able to do so (Olteanu and Fichter 2020). The discrepancy is even more glaring when it comes to venture capital where after all, 17 percent of conventional startups receive capital from venture capitalists, but only 9 percent of green startups (Olteanu and Fichter 2020). But are there any promising trends that might tackle the predominant issue?

2.2.5 The rise of impact venture capital

To tackle today's enormous social and environmental challenges a new movement, impact investing, is on the rise (Abir 2017; Geczy et al. 2021). The motto "doing well by doing good", indicates that focusing on impact can generate concrete value for businesses, government and investors (Abir, 2017). It provides the opportunity to generate social and environmental value via their investable assets and thus achieve two goals at once: profits and social benefits (Gray et al. 2016; Brest and Born 2013). However, these investments sometimes require a more long-term approach (GIIN, 2020). According to the Global Impact Investing Network (GIIN) the market grew by more than 42 percent in 2020 reaching a total market volume of roughly 715 billion in assets under management (GIIN, 2020). One major factor explaining this upsurge could have been the Covid-19 pandemic, which has been a catalyst for change and switched the focus towards carbon neutrality and green deals on a global scale (Olsen, 2020). Nonetheless, the rapid growth has been escorted by the questions on how to assess the impact and whether market returns are feasible (Brest and Born 2013).

Yet, over the past years, there has been concrete progress in developing social impact metrics at the industry-wide level and, moreover, the industry has become increasingly data-

rich (Jackson, 2013). Still, there seems to be a lack of a standard framework or tool. Nevertheless, the GIIN study assessed that nearly nine out of ten of the impact investors use at least one framework, tools or systems to evaluate and measure their impact (GIIN, 2020). The tools used most frequently were the United Nations Sustainable Development Goals (SDGs) with 73 percent, the IRIS Catalog of Metrics with 46 percent, the IRIS+ Core Metrics Sets with 36 percent and the Impact Management Project (IMP) with 32 percent (GIIN, 2020). These frameworks are used for setting objectives, measurement and reporting. Nevertheless, impact investors need to standardize impact results, objectives and financial performance to enable the industry to develop analytical tools for investors (GIIN, 2020).

The second issue, the comparable market returns, is also challenging. Brest and Born indicated that investment only can have an impact if it “increases the quantity or quality of the enterprise’s social outcomes beyond what would otherwise have occurred”, leading to the hypothesis that these investments demand a financial toll (Brest and Born 2013). A more recent study puts a number to it and shows that impact investors are “willing to forego 13 to 18 percentile ranks of vintage-geography benchmarked performance or about 2.5 to 3.7 ppts in expected excess IRR on average” (Barber, Morse, and Yasuda 2021). Still, it is challenging enough to contract for private investment when everyone is just in it for the money (Geczy et al. 2021). Thus, the extra objective of social impact adds a new dimension to the challenge which can be exploited by impact investors (Geczy et al. 2021). Given the rapid market increase, it can be assumed that this has already started.

However, taking this into account, our goal was to answer the following question: Why finance VCs green startups less?

3 Methodology

3.1 Design of the research

In this section, the design of the research will be depicted in more detail. The goal of this study is to extract potential reasons for the financing gap between green startups and VCs and to establish recommendations for mitigation. We used an open examination method since the research area does not seem to contain any objective truth. Therefore, we collected the data via explorative expert interviews which focused on explaining and understanding the issue through different perspectives. This approach also provided the interview partners with the room for elaboration. Thus, this qualitative, reconstructive research enabled interpretative methods that also recognise latent structures of meaning and allows for subjective perspectives.

Firstly, before an explorative interview was conducted, we designed an interview script that encompasses categories challenging the main issues and questions. We created three question blocks that examined: The criteria used in an investment process, the attitudes towards being green and the recommendations and alternatives for green startups. The first two categories were aimed to find out whether there are specific elements that prohibit latently or evidently the choice of financing green ventures. The third category, on the other hand, was supposed to provide insights into how to eliminate the investment gap. After we developed the first draft of the interview script, it was evaluated by academics who provided feedback. As a result, we changed the structure, style, format and language of the survey questions. Therefore, the final version consisted of four major parts including main and sub-questions (see appendix 1). Despite creating the standard version, we slightly adapted the questions throughout the research process in terms of structure and language to increase the response quality. Still, we

kept the fundamental question identical for better comparison across the results. The following explains the individual segments of the interview script and their objectives.

The first part focused on short, personal and simple questions to create an “easy” environment for the interview. The objective was to utilize the easy questions and answers to foster elaboration on the upcoming, more important questions. The first two questions also started to depict the first hints on what might be important for the VCs in an investment decision. The questions targeted when and why the interview partner started in venture capital as well as the investment strategy of the firm they are working for.

Subsequently, the second part concentrated on criteria used by VCs to evaluate an investment opportunity. Therefore, focusing on more objective elements. In this section, we asked broad questions first to enable wide-ranging answer covering absolute “No-Gos” as well as the first characteristics VCs are looking for within an opportunity. Successively, we tested more specific questions about frameworks, measurability and the specific criteria used. Finally, we asked direct questions regarding potential ESG criteria, if not mentioned before. The objective of this section was to examine the criteria VCs focus on and to see if ESG criteria are mentioned without being addressed before. Furthermore, this section was meant to highlight whether the evaluation process depends primarily on quantifiable or qualitative measures.

The third part, on the other hand, dealt with the opinions the interview partners have about green startups and if they believe they face a harder time raising capital from VCs. Thus, this section targeted the more subjective side of the issue. This included the quote from the Green Startup Monitor which stated the VC-backed discrepancy between conventional and green startups. Afterwards, we inquired via a follow-up question why “other” VCs might finance green startup less. Especially if you get questioned about a topic, where you know that you might be part of the issue, it tends to be easier to tell the truth, if questioned about the wrongdoing of others in the same field. Therefore, we used the phrase “others” to foster a more

honest answer. The overall objective was to find out if VCs are aware of the metrics in the industry and if the experts have ideas why this discrepancy does exist.

The fourth part is strongly interlinked with the third part but is the solution-oriented segment of the interview. Thus, focusing on potential alternatives for the financing of green startups as well as recommendations from the VCs. The objective was to find out whether the VCs have any concrete ideas on what could be done by the green startups, the government or even themselves to mitigate the investment gap.

This funnel-like structure facilitated a successive approach to the problem, starting with their criteria and process of evaluation, followed by attitude towards green and the resulting in opinion and recommendations on how to tackle the matter. The whole structure was designed for a 30-minute interview, which occasionally was carried out in a shorter time period due to the narrow time availability of the interview partners. Yet, to generate interview partners at all, we utilize a leading, professional network platform. The hypothesis behind it was that a direct but personal request could be created and if the potential interview partners have any doubts regarding credibility, they were able to examine the profile of the author first. But still, the questions remained: Whom to ask?

3.2 Sample and procedure

We chose the following criteria to select the VCs. Firstly, we determined a geographical reach. The focus relied on the European countries and more specifically on countries with high or fast-growing VC numbers and prospering startup ecosystems. Thus, United Kingdom, Germany, Switzerland, Austria, France, Italy, Spain, Scandinavia and Portugal were in the focus. Secondly, we applied a stage focus since most green startups are currently still in the early stage where VC money can be crucial for success. Besides, having an already successful green company in the later stage asking for funding might not raise the same issues and concerns anymore. Thirdly, we decided to not solely appreciate conventional VCs but also impact VCs and government-supported funds to examine if differences can be found.

After clearly defining the scope, we searched for potential interview partners and approached them via an international networking platform. We send more than 50 direct messages to venture capitalist and another 23 via “connect” inquiries, where shorter texts were used to explain the request. Due to a lack of responses, we also send 45 emails to venture capital firms and additionally another 17 online inquiries on websites. The generic emails (e.g. info@vc.com) generated the most responses, offering the possibility of follow-up emails asking for a quick written response instead. Out of all inquiries we managed to interview a total of ten VCs.

Whenever a VC agreed, we scheduled a digital meeting via one of the leading video communication platforms. Before conducting the meeting, we researched the company in detail to ask specific questions if frameworks or matrixes existed or sustainability aspects were included in their investment theory. This offered the possibility to deep dive if necessary. Unfortunately, two recordings of the interviews were lost due to technical problems, resulting in one

interview being repeated, while the other was confirmed in writing using the interview notes. This resulted in a total of eight recorded interviews and two written answers. We will explain the characteristics of our sample in the next section.

3.3 Sample characteristics

Initially, the characteristics of the firms and afterwards the characteristics of the interview partners will be depicted. The research was conducted from February to March 2021. The table below summarizes the sample characteristics.

Table 6 Sample characteristics

Sample characteristics	
Characteristics	Values
No. of Responses	10
No. of VC Firms	11 (due to double occupancy)
Early Stage Focus	100% (inter alia)
Sector Focus	Agnostic (Bio- & Medtech, Life Science, Digital, SaaS, Technology, Engineering and Finance to Tourism, Retail and Sustainable Food)
Geographical Origin	United Kingdom, Germany, Switzerland, Italy and Portugal
Investment Focus	Wide majority of Europe and beyond
Gender distribution of interview partners	30% Female, 70% Male
AUM (8/11)	4.7 billion euros
Combined Experience	> 110 years

Source: Created by the author

The countries cover three out of the top five countries with the largest total value of investments by venture capital firms in Europe in 2020 (Norrestad, 2021). More specifically, of all interview partners 50 percent belonged to more established venture capital countries like the United Kingdom, Germany and Switzerland, whereas the other 50 percent belonged to the smaller, less established venture capital markets like Portugal and Italy. This offered the opportunity to see if there are differences across well established and rising markets.

In terms of total value of venture capital investments, the United Kingdom, with approximately 13.5 billion euros, and Germany, with around 6.3 billion euros, represent the pinnacle of the VC markets in Europe (Norrestad, 2021). Within the sample already eight of the eleven firms covered an asset under management (AUM) volume of over 4.7 billion euros, which is approximately as much as the combined total investment of Sweden and Switzerland in 2020. The numbers were taken from their websites or interviews. Unfortunately, the numbers for the other firms were disclosed. Furthermore, nine of the eleven firms account for a combined experience of over 110 years, in which more than 880 firms were financed. And this although two out of the eleven firms examined were impact VCs from Portugal and Switzerland (~ 18%) and another three firms, from Germany and Portugal, were using public money (~ 27%).

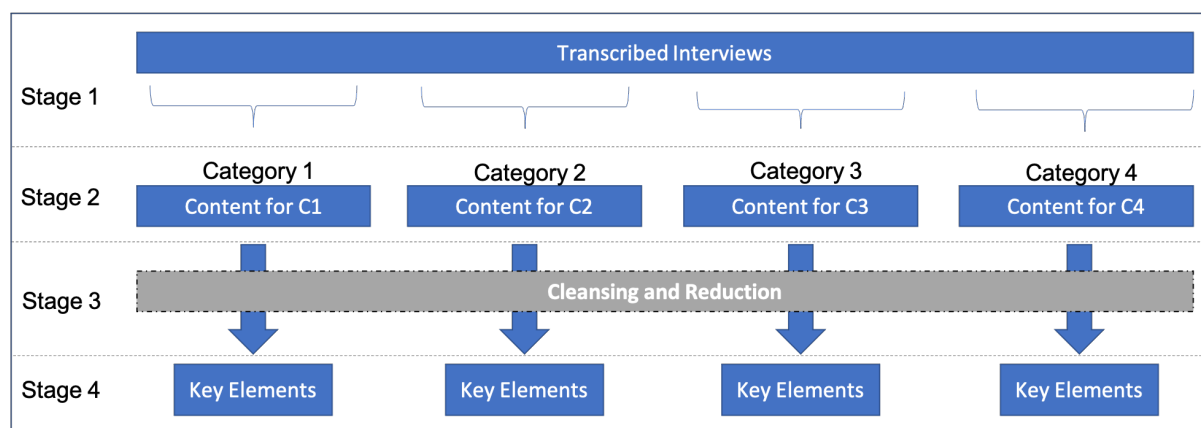
In the following section, the characteristics of the interview partners will be assessed in more detail. The focus will be on the job position as well as gender distribution. The job positions were divided into three different levels: Management, Senior and Employee levels. Due to the lack of unified designated job titles, the different levels were constructed using responsibilities, experience, tasks and job title. Within the sample, five positions were on management level, including Managing Partner, Finance Director and Executive Vice Presidents. Further two positions can be associated with senior level (Principals) and four on employee level (analysts and associates), providing a broad view of opinions from top to bottom.

Examining the gender distribution, it can be seen that 30 percent out of all participants were females. Comparing this to Europe's VC industry is not easy, due to the lack of a singular source of information. Nevertheless, if looking at the top 10 firms Sifted examined, including Accel, Balderton and Holtzbrinck, only 15 percent of the partners were females (J. Lenhard, 2020). However, there exists a positive trend as the gender ratio is improving slowly for junior ranks to 37 percent in 2019 (J. Lenhard, 2020). Therefore, the sample distribution seems comparatively suitable.

3.4 Preparation of Content

To analyse the responses in an enhanced way, the following structure was executed. The structure is composed of four different levels, which are represented below.

Figure 5 Analytical procedure



Source: Created by the author

In the first stage, we transcribed the interviews from video to Excel including the entire conversation, except gestures (e.g., shaking the head) or pauses. In the second stage, we assigned the answers to the four category blocks, which were described in the design of the research section. We performed the allocation within a table, to assemble the content for each of the same questions across all interview partners. In the third stage, subsequently, we executed a cleansing and reduction of the content to eliminate filler words and repetitions. If another language was used, we translated it to English using a renowned, online platform. In the fourth stage, we used the compressed results for a more in-depth analysis. For the majority of questions, we created specific tables to facilitate quantification of the data. We used the most common answers as well as the expected answers from the theoretical background, e.g., the criteria, and whenever they were mentioned within the response, we assigned a “1” to the criteria within the table. Therefore, the criteria mentioned most frequently obtained the greatest sum and thus, enabled a way to quantify. Nevertheless, we additionally filtered out and analysed the key statement to ensure that core messages were not rationalized. This facilitated a greater sense of the content and intended meaning. When examining the more complex questions which were less quantifiable without losing the majority of the content, like the recommendations, we additionally divided the answered in sub-questions, such as the recommendations for green startups, VCs and the government. Then we scouted the key statements and displayed these in a table, allowing a good overview of the specific answers provided for each sub-question. These two approaches offered an assortment of quantified insights and subjective key statements.

4 Results

Within this section, the results will be depicted. The results will be directed towards answering the questions why VCs might be less willing to finance green startups and therefore will be presented in the order of the key elements.

The most important criteria used by VCs are the team and its execution power (100%), the market and scalability (91%) as well as the product itself (73%). The analogy of the Jockey as the team, the stadium as the market and the horse as the product was mentioned multiple times. However, the founding team was emphasized as the key driver for a decision:

"Commitment to excellence, driven by purpose, obsession with the product, magnetism, ability to draw people towards the product. (...) The team is most important." – United Kingdom

"Some people say VC is more a people business than tech business and for an early seed startup it is like that. The founding team is a fundamental component." – Italy

"The importance of respective criteria depends on the stage and type of the business; generally, the most important criteria is a strong, mission-aligned (founding) team." – Switzerland

"Team! (...) In this stage, the product is in the early stage of development and sometimes they don't have any revenues. (...) Therefore, the team will be a key decision in all our investments."
– Portugal

Furthermore, the valuation, the competition, the structure of the syndicate and the fit for the fund policies were named as criteria used by at least half of the interview partners. However, only four out of the eleven companies did mention impact by themselves as an important criterion, too. More specifically, if we deduct the two impact funds from this result, we are left with two VCs of which one is a public and the other a conventional company. The impact-driven funds clearly emphasized the embedded impact in their investment thesis.

“We focus exclusively on investment with clear alignment between revenue and impact. Impact either social or environmental.” – Portugal

“Moreover, it needs to match our investment thesis in terms of impact (animal-free, healthy, environmentally friendly).” – Switzerland

The public and private fund, on the other hand, were structured around areas which imply, by the nature of the area, an impact if it improves or solves an issue. Thus, automatically taking impact into account by following their investment thesis.

“The fund (...) invests in Biotech, Health, IT, Industry 4.0 and Tourism, which were defined partially because of the social and economic impact they have on Portugal. These are the areas Portugal needs to promote to improve society.” – Portugal

“It is much more attractive if this problem has a human or natural nature. This is why I am in the area of health. Is it actually solving a problem there is no solution now and is it relevant problem from a human and social standpoint.” – Portugal

Even though the general perception tends to be that almost all criteria are important, few interview partners identified the valuation and exit opportunities as well as competition as occasionally secondary. The table below offers an overview of the criteria mentioned.

Table 7 Criteria used by VCs to evaluate investment opportunities

Criteria for evaluation	Team Execution	Market Scalability	Product	Impact	Valuation Exit	Business Model	Competition	Syndicate	Fit for fund
1st criteria:	11	10	8	4	5	4	5	5	6
2nd criteria:	0	0	0	0	2	1	1	0	0
Portugal, public	1	1	1		1		1	1	1
Italy, private	1	1				1	1		
Portugal, public	1		1	1				1	1
Portugal, private	1	1	1	1	1			1	1
UK, private	1	1	1		2	2			
Germany, private	1	1	1						
Portugal, private	1	1	1		1		1	1	1
Portugal, private, Impact (UK backed)	1	1		1	1				
Germany, public	1	1				1	1	1	1
Germany, private	1	1	1		2	1	2		
Switzerland, private, Impact	1	1	1	1	1	1	1		1
Legend: 1 = Mentioned 2 = Mentioned as secondary									

Source: Created by the author

When looking at how the criteria are used, it can be seen that six out of eleven VC firms are using defined frameworks or matrixes within the investment process to evaluate potential investments and nearly the same six correspondingly mentioned the use of metrics, which are used at least partially (see appendix 2). Furthermore, eight out of the eleven companies did mention subjective experience and opinion as a major factor within the process and five also declared the significance of expert panels (see appendix 2).

If we look more closely towards ESG criteria it can be seen that all (100%) of the firms claim to take them into considerations. However, only four had equal and stand-alone ESG

criteria and eight embedded them into their decision making. The four companies that do consider ESG criteria as an independent variable are also the ones that quantify and have specific metrics for ESG. This includes the two impact funds but also one public and one private fund. The following table depicts the results.

Table 8 Usage of ESG criteria by VCs

Environmental, Social & Governance Criteria	Impact	Impact subjectively embedded	Initiatives	Clauses	Measured impact metrics
Total	4	8	2	2	4
Portugal, public		1			
Italy, private, conventional	1				1
Portugal, public	1	1			1
Portugal, private, conventional		1			
United Kingdom, private, conventional		1			
Germany, private, conventional		1	1	1	
Portugal, private, conventional		1			
Portugal, private, Impact (UK backed)	1				1
Germany, public		1			
Germany, private, conventional		1	1	1	
Switzerland, private, Impact	1				1

Source: Created by the author

The eight firms taking ESG criteria subjectively into account, do state that they would rather invest in a startup with a positive impact on society than without, provided that the basics are the same. Yet, the ESG considerations only emerge during discussion or via individual opinions.

“We don't have strict criteria. (...) it is a soft factor that emerges in the discussion.” – Germany

“(...) the business having a positive side effect in our society is something that we value. But it is not mandatory or a deal breaker in our investment criteria. (...) We don't measure the impact.” – Portugal

„ESG criteria are not disqualifying criteria, are not quantified and are only included in the subjective assessment.“ – Germany

“A company appears which has also an environmental benefit it is immediately a plus. (...) But this is due to the personal awareness of the people who take the decision. It's not a formal criterion but everyone knows that there are issues.” – Portugal

The other four companies that do consider ESG criteria as an independent variable are also the ones that quantify and have specific metrics for ESG. This includes the two impact funds but also one public and one private fund.

“As part of our investment process, we conduct a sustainability due diligence in which we analyse the status quo in terms of environmental, social and governmental sustainability. We also measure sustainability-related KPIs for all our portfolio companies.”

– Switzerland (impact)

“We use the IMP Framework. So we have a broad sense of how big the impact is. (...) and then we have one or two impact metrics to keep track of. (...) We also define a four-year impact goal” – Portugal (impact)

However, one of the issues that was mentioned several times seems to be the measurement of the impact. This was not only mentioned by conventional VCs but even the impact funds had to admit that quantifying impact is still difficult.

“It is very hard (sometimes). Some KPIs are straight forward some are not. And some have impact and you know it but it is too soon to see it.” – Portugal (impact)

“We hear from people who have been for years in impact investment that measurement is an issue. (...) We are not sitting here to create a model. We are not an impact-driven fund. We use those concepts as proxies. But we do not try estimate a magnitude of impact.”

– United Kingdom

Another key element of the study was the opinion on green startups. When assessing these all interview partners agreed that ESG-oriented startups certainly convey an advantage. An advantage that is not only beneficial for the startup itself, as depicted above already, but also for the VCs. Having green or impact-driven startups in the portfolio can be used to “improve the image” and to raise funds. This is due to several limited partners and institutions that have sustainability requirements attached to potential financing. Therefore, some VCs said that “it is done not primarily because it is good but also because it looks good”. Corporate VCs were named more specifically: “Corporate investors are interested in these sorts of (green) startups because of greenwashing, marketing and visibility.” Therefore, when asked if they think that green startups might face a harder time in raising money from VCs, 90 percent answered with “No”. Not rarely even implying the opposite. Only one interview partner pointed out that the first priority for a VC is a certain multiple and that there seems to be a common belief that ESG startups do not achieve these goals, leading to a harder time in fundraising. When the financing gap was presented, the collective reaction of the VCs was surprise. The potential reasons that prohibit other players of the industry to invest in green startups, concerned most frequently the profitability (60%), the priorities of the green startup and the founding team (50%), the actual fit for VCs (40%) and the market and exit potential (30%). The table below reveals the results.

Table 9 Summary of potential reasons for fewer investments in green startups by VCs

Potential Reasons & Issues	Market Failure	Profitability	Competitiveness	Priorities	Team	Scalability	Market / Exit	Suitable for VC
Issues mentioned:	2	6	1	5	2	2	3	4

Source: Created by the author

“Not every startup is suitable for venture capital. Perhaps green startups, in particular, have more often business models that don’t always meet VCs’ criteria for investment.” – Germany

“(…) one explanation could be that green startups, do not put profitability as their first priority. So being green is the first priority and the second is being profitable.” – Portugal

“I can imagine that there is a bias in the type of company. Market, scalability, business model and ambitions. It’s just not for everyone. Especially in the impact sector, founders often want to do everything right. Instead of just one social thing, all things should fit and it can happen (pure hypothesis) that scalability falls by the wayside.”. – Germany

Furthermore, the scalability and the team itself were mentioned which, with all other issues, concerned the startup or its business model itself, however, some also mentioned a general market failure:

“This is a question of the free market not always working the way you want it. You have a motivation to solve environmental problems and economic activities, as conceived in a free market society, are not always compatible with that.” – Portugal

“It is also a matter of national ecosystem and the country’s resources connected to venture capital.” – Italy

When we followed up on the question, by asking if being green might harm profitability, the common answer was: “No, not at all”, “I personally (...) do not believe that profitability suffers when you are ESG oriented.” or “Is it a trade-off? That is exactly the discussion we have internally. Personally, I don't think so.”. An impact startup itself said, that it is a tricky question whether they will be able to generate the same returns as conventional startups, but the objectives are definitely the same. Furthermore, another hypothesis was described. “We exchanged ideas with private impact VCs about assumptions and within the impact funds it is more likely that you don't get as many investments with the 10-fold potential and a crazy increase in value, but on the other hand you have a lower risk of default, which then also leads to a good mix for the return.”

The study further reveals the following options as alternatives for green startups. The most potential and frequently mentioned alternatives by VCs, for green startup facing the financing issue, are Crowdfunding (70%), other non-dilutive sources of financing (50%) and public money (50%).

Table 10 Alternatives stated by VCs

Alternatives	Crowdfunding	Non diluted sources	Business Angels	Impact VCs	Govern-ment money	Other forms of financing
Potential alternatives:	7	5	2	2	5	1

Source: Created by the author

They emphasized especially the ability to raise funds and increase brand awareness simultaneously as a benefit of Crowdfunding. Nevertheless, the VCs also raised concerns and recognized the issues of Crowdfunding.

“The disadvantages of Crowdfunding are the limited amount you can raise, not having professional and value-added investors on board and the negative connotation of Crowdfunding.” –

Portugal

“Crowdfunding is great (...) but you need to be careful about your cap. table and how much you are giving away and to whom.” – Portugal

“Crowdfunding in a professional way is not easy.” – Portugal

Furthermore, they described non-dilutive sources of financing such as bank loans, grants, credit lines or non-reversible grants as alternatives. Moreover, some governments have specialized grants and investments for certain industries. They mentioned government grants that are offered for the movement towards a more sustainable food system.

The last key element of the study is the recommendation to mitigate the financing gap. These include ideas for the green startups, the investors and the government. Firstly, we view the proposals for the startups. These are collected and displayed as quotes from the VCs in the table below.

Table 11 Recommendations for green startups by VCs

Recommendations for green startups to raise money successfully	
Portugal, public	„Have a project aligned with the strategy of a VC."
Italy, private, conventional (HQ France)	„Prepare your pitch and know your investors. Know that a VC wants to have a return. (...) Thus, prepare your pitch and try to pass this message that you will get profitability despite being green."
Portugal, public & private, conventional	"Never try to sell the company as just environmentally beneficial and also never to sell the company as solely economical. (...) The art is to always find this intersection."
United Kingdom, private, conventional	„You would need to fix your basics first. Because I think if you are green, I think you should be able to raise Venture Capital."
Germany, private, conventional	„It would be the same advice as for every other startup. Don't be just an impact startup but also be highly profitable." „Talk to B.A., they can handle the money more riskily and perhaps also accept a lower return for a social/environmental return."
Portugal, private, conventional	"Would be the same for conventional companies. Fundraising can be a full-time dedication. VC money is not the only type of money, thus, match your ambitions to the type of funding you are trying to raise. Be prepared to fundraise. Have materials and pitch well prepared."
Portugal, private, Impact (UK backed)	„First of all, you need to communicate your “lock-step” between impact and revenue."
Germany, public	„Don't make solely a financial plan but also an impact plan. (...)and talk to impact investors"
Germany, private, conventional	„Don't be solely an impact startup. (..) You need to have impact and revenue in a “lock-step”. Afterwards, like everyone else, you need to focus on market, scalability, team." „Increase the exchange between founders of conventional and impact startups."
Switzerland, private, Impact	„Communication of a clear vision and mission, truly sustainable products and business model with a clear differentiation and USP, addressing large-enough market, considering business model of VC and exit options/timeline."

Source: Created by the author

The VCs emphasize that for a startup to be interesting, it must not only have an impact but also be financially very attractive. This must also be made clear in the well prepared pitch. Impact and profitability must always be linked in a “lock-step”. Furthermore, there is not a different analysis for a green startup and thus, impact startups need to make certain that all aspects are aligned and attractive, as conventional startups need to. Therefore, they recommend a greater exchange between established forms of startups and impact startups. Furthermore, they suggest that if the fundraising from traditional VCs still is critical, the focus on Impact VCs and Business Angels with a strong ESG focus should be applied. The underlining premise is that those might value the social and ecological return more and thus, would dismiss a little less profitability.

Additionally, we collected and identified recommendations for governments. They mentioned that in order to fix the market failure the government has two ways to intervene. On the one hand, there could be direct support from governments, meaning subsidizing specific activities, areas or industries. On the other hand, the government could invest in research and development of technology that makes “whatever is environmentally safe and good more economically viable”, leading to a potential self-correcting market in the longer run. In any case, the sources of financing must be aligned with green strategies, thus adapting and implementing guidelines, since “(..) the change is not only from demand side but also from the offers side.” However, they criticise that especially in times of a global pandemic, recovery plans are leaving out VCs and startups completely. “Government should take action. The Italian government has a 200 billion recovery plan and no word is mentioning VCs or Startups. It is a shame.”

Furthermore, the VCs stated recommendations for themselves and investors in general calling for a change from their side, too. Two of the public VCs declared that they are working on creating a new impact fund focusing on fostering the green economy. Likewise, the conventional VCs revealed that they were working on guidelines or metrics they would like to

implement shortly to sharpen their investment focus towards a greener end. However, these cannot restrict the flexible evaluation approach. Further, VCs also perceive the opportunity to promote green investment when “entrepreneurs and investors work together on business models that make the solution for the environment economically attractive.” Generally speaking a call for greater collaboration and cooperation. Nonetheless, one VC reflects the position of investors critically and frames the recommendations for investors lucidly. “We can have an entirely different discussion about whether or not the growth model of the economy is compatible with being green (...) but we would need to change fundamentally the ways we measure growth (...)” Moreover, a call for reflection for all VC was added: “We are approaching a time where VCs need to think more deeply about the issues confronting humanity collectively. (We should) really be allocating capital in a substantial way to businesses that are truly, earnestly tackling those issues. (...) It’s really going to be important in the next couple of decades that we continue to accelerate that. That, rather than investing in the next distracting app or convenience factor, we start allocating capital to things that are really going to shift (...), because that is what we require.”

5 Main conclusions, limitations and future research

In the following section, the results will be discussed critically. However, firstly, we must accept that this study, like all studies, has its flaws and room for improvement. Provided the number of interviews and coverage of countries in Europe, we suggest increasing the quantity and scope to statistically significantly confirm the statements emphasized by this study. Furthermore, it might be advisable to prepare the content in a further structured way, for example along the lines of Mayring's content analysis.

5.1 Syndicate of public and private actors for sustainability

The first thing to acknowledge is that it is not a matter of one responsible party, but a syndicate of different actors working together to promote and demand a move towards a more sustainable world. An interplay of private and public players following common policies and guidelines. If change is unilateral, it will not be sustainable in the long run. Still, it is perfectly comprehensible that VCs act according to the *homo oeconomicus* principle within the bounds of what is permissible, and it is therefore necessary to create incentives or regulations from the public side to guide the investments and developments. One could argue that within the free market, which we tend to value highly, a government should not intervene because the market will regulate itself. This could be correct in a long-term perspective, as we are already witnessing a shift in society, however, given the short timeframe we have to mitigate the severe implications of climate change, the time for self-regulation seems to be over. Besides, this matter impacts directly the welfare of tomorrow's society and thus, justifies the government to act

according to Cicero's maxim: "*Ollis salus populi suprema lex esto*" (*The welfare of the people shall be the supreme law*) (Cicero). Therefore, we recommend governments and public institutions to actively foster areas of interest connected to a green economy. This could include specific measures such as subsidies of sustainable technologies, the pricing of harmful emissions, tax incentives, regulated phase-out of harmful industries or funding research and development of new technologies. What kind of regulations or incentives are most successful must be assessed in further research. Moreover, especially in times of crises like Covid-19, it is a necessity to also integrate startups into recovery plans in order not to lose the potential progress driven by startups as an accelerator for the post-crisis period.

However, as pointed out by Ursula von der Leyen, public financing will not suffice. The call for change among investors is increasing, and from the results of the study you can see that VCs agree that it is good to be green, but some even believe it is the area where more money needs to be invested. Still, these statements should be taken with a grain of salt because with such a topic social desirability comes to play. This is the "tendency for survey respondents to over-endorse items that they perceive others judge favourably" (Furnham, 1986). Nevertheless, some VCs confirmed that they launch new funds focusing on the green economy which also goes along with the compounded annual growth rate of 87 percent of VC investing in climate tech from 2013 to 2019 (PwC, 2020). Still, it was evident that when asking the interview partners if green ventures have any reason to be less financed, the common answer was "no" at first, but after displaying the finance gap and asking why other VCs might tend to finance green startups less, probable issues such as profitability were mentioned. Then, when we asked directly if they individually believe that being green must results in less profitability, again the common answer was "no". This could imply that subconsciously there are still predominant opinions that persist which, however, are not acknowledged publicly. Nevertheless, even if

VCs would like to act more sustainably, it seems to be something that is not solely in their hands. This is due to two reasons. Firstly, they depend on financials and are thus subject to the LPs and the market. This implies that they are the executing hand but not necessarily in the driver's seat. Secondly, they need to have potential startups to invest in that utilize these markets and drive profits and impact.

5.2 Recommendations for Green Startups and VCs

5.2.1 Green Startups

For these reasons, startups must emphasize that they are financially attractive and that they have impact and revenue in a “lock-step”. It is crucial that being green is not a (significant) trade-off. Especially, when looking at the criteria mentioned, it is interesting to see that solely the impact VCs and some governmental backed funds, with few exceptions, use currently impact as a (key) criterium. Therefore, being green is not enough. This, however, does not necessarily explain why there exists a financing gap. Most certainly would a common impact criterion drive investments towards a greener direction, however, if the green startups are not competitive in the most important elements for decision making, this would solely impede the VC industry. VCs cannot, even if they wanted to, invest in companies that fail to offer substantial returns. Thus, it is crucial to also take the more important factors such as team into consideration. It becomes evident that there are different types of green entrepreneurs (Walley and Taylor 2002; Nikolaou, Tasopoulou, and Tsagarakis 2018). However, when the founders are driven by a purpose to make a positive change and combine this with the exploitation of new

opportunities in the market, it is highly valued and preferred by the VCs we interviewed. Therefore, we recommend that green startups work on their basics to be comparable.

However, if the business models of green startups are not fitting VCs requirements, we recommend other non-dilutive forms of financing or Crowdfunding. Chasing VC funding for the sole reason of getting funded by VCs not only takes a lot of time but also diverts the focus away from the relevant, practical tasks that genuinely move the startup forward. Consequently, we like to emphasize that not every startup fits the requirements or even requires funding from venture capital and that is reasonable. Therefore, we advise that green startups should critically assess whether they have a real likelihood of being a suitable investment and whether they actually require VCs for their next development step. Are the resources invested in fundraising worth the result?

5.2.1 Venture Capital

Still, the issue is not only to be fixed by the startups. We have also developed recommendations for VCs. Especially the absence of objective frameworks used to standardize and compare decision making at conventional VCs is noteworthy. It is understood that especially in the VC business the experience and market knowledge is fundamental and enables the VCs to operate as a solver of the market-failure between investors and early growth startups. However, this allows subjectivity to skulk into the assessments and leaves the VCs vulnerable to common biases such as similarity bias or gender bias (Balachandra 2020; Franke et al. 2006). Particularly the gender bias is severe because due to gender imbalance in gatekeepers women are

being excluded from funding or pitching (Balachandra, 2020). This becomes specifically interesting when looking at the gender distribution for green startups, where the average in Germany in 2020 is significantly higher with 22 percent than for non-green startups with only 15 percent (Olteanu and Fichter 2020). This could be one factor fostering the financing gap and therefore, we recommend quantifiable, comparable decision-making processes which mitigate biases as much as possible.

Another option to foster green investments would be a collaboration between investors and green entrepreneurs to work together on attractive business models. This might also facilitate a “better” allocation of capital towards “businesses that truly tackle those issues”, as proposed by an interview partner. But the question remains: Will and can venture capitalists really do it? It is a profit-driven market and thus, financials are decisive. Therefore, the valuation and exit cannot be neglected. Even though they were only mentioned by half of the interview partners, we require a closer examination due to the nature of VC and their short-term horizon. The reality is still that investment decision is driven by profitability and not by impact. Therefore, when inspecting the structure of venture capital two questions arise: First, are green startups able to generate a high comparable multiple and secondly, do they require a longer timeframe to generate these? As mentioned before, studies confirm that ESG-oriented businesses perform better than conventional businesses, but also that investors have to forego returns, especially in the early stages. Furthermore, within the PwC report on the state of climate tech in 2020, they point out that the “first class of climate tech unicorns have emerged” referring to companies such as Beyond Meat, Oatly, Impossible Foods, Tesla and Nest, which show that despite delivering critical sustainability gains you can also become billion-dollar brands (PwC, 2020). Moreover, they point out that there already exist more than 43 climate tech startups that value more than 1 billion USD, classifying them as unicorns (PwC, 2020). This noticeably implies

that green business can achieve high multiples. Additionally, this implies that the demand for such green solutions is rising profoundly.

However, they also indicate that green startups tend to need more time to reach scale (PwC, 2020). Yet, currently, VCs are investing for a high, short-term profit. Therefore, further research should be conducted targeting not only the financial performance of green ventures but also the timeframe in which they achieve specific multiples. Where is the “sweet spot” between forgoing percentages and high multiples? Then perhaps, instead of hunting the next green unicorn, a new target can be determined, such as the green zebra, which is thought to be a more founder-driven alternative to building a unicorn (D. J. Lenhard, 2021). Instead of seeking “blitz-scale” they focus on long-term profitability. However, this implies a profound and time-intensive restructuring of the current Venture Capital system towards a longer investment cycle and timeframe. This would also include LPs who can drive or change the industry by changing their investment thesis and setting clear rules for the VCs. Forgoing, if necessary, a minimal percentage of return but increasing sustainable yield. Of course, the question arises again: why should LPs do this? Thus, imaginably the governments could provide incentives such as lower taxes on environmental friendly return.

Still, one of the main contemporary issues, why VCs don’t have impact as a criterion, is the measurability. It seems to have a deterrent effect. Conventional VCs tend to argue that there is no sufficient way to quantify impact while maintaining flexibility in decision-making. Therefore, we recommend a greater collaboration between Impact VCs and conventional VCs. There are applicable frameworks in the market that should be shared and collectively improved. A possible way could be the creation of syndicates when financing new ventures where also measurement and evaluation processes are aligned. Then the conventional VCs do not need to “create” their own measurements but can “learn”. These proofs-of-concept could be used to mitigate perpetual biases.

Another possibility is driving change from the demand side. VCs will always foster high growth potentials and if the market changes collectively towards a greener end they would certainly need to follow. Therefore, it is not only down to public government, VCs and green startups but also to the individual consumer who drives the market by consumption. Obviously, no one will be able to do everything, but everyone will be able to do something. Therefore, promoting general awareness and education of the public is a foundation for the shift towards a greener society and economy.

5.3 Final conclusion

To conclude, the objective of the study was to identify reasons why venture capitalists tend to finance green startups less. Within the qualitative research, multiple potential reasons were identified which offer approaches that might explain the financing gap. However, throughout this study, it becomes clear that the financing gap is a sophisticated issue with various reasons and implications that must be further studied. To enable a possible shift towards more funding for green startups, a collective approach needs to be taken. An interplay of public funds and policies that set the direction for maintaining the wellbeing of us all, and private funds that build on this and enable the necessary widespread implementation and scalability. The government must actively direct and encourage the promotion of a sustainable economy through selected and tested instruments. Moreover, especially in recovery plans for the Covid-19 pandemic, startups must not only be taken into account but also utilized for a rapid economic emergence after the crisis. Furthermore, not only must VCs adopt a new focus, but it must be encouraged and demanded by the limited partners and investing institutions. Only then would VCs have the leeway to redesign processes and structures towards more sustainability. Additionally, green startups need to refrain from focusing solely on impact and start integrating profit and impact in a “lock-step” business model. Only in this way can the startups attract the interest of the decision-makers at the VCs, because in the end, it is about receiving an adequate return. However, to facilitate such a change, we must not neglect the power of the consumer who drives the market and thus profitability. Therefore, also the consumers need to start allocating consciously their capital to things that drive shift because that is what we and our future generations require.

Appendix

Annex Directory

Appendix 1: Expert interview script

Appendix 2: How to assess/rank/evaluate the criteria

Appendix 1: Expert interview script

Part 1: Personal Questions

1. When did you start in VC? Why?
2. What is the investment strategy and goal of **XX**?
 - a. Do you focus on a specific industry and why?
 - b. What stage are you focusing on (early seed, later stage)?
 - c. How are you evaluating your success? And what period? (*“Only” financial goals or also impact?*)

→ Goal: **Making expert feel “easy” due to easy questions and well known answers. Start making them elaborate. Get the first hints on what might be important for the VCs.**

Main questions:

Part 2: Criteria and process

3. What are you looking for in an investment opportunity?
 - a. Team? Business Model? Valuation? Exit plan? Company’s Profile, Stage?
4. What are the criteria you use in order to evaluate a startup or investment opportunity?
 - a. How do you rank/evaluate (conduct)?
 - b. What is most important for an investment decision?
 - c. What is an absolute “NO-GO”?
 - d. Do you weight specific criteria more than others?
5. Do you have or consider Environmental, Social or Governmental (ESG) criteria?
 - a. If so, on what basis are you scoring/measuring the startups?
 - b. How do you weight the ESG criteria?
 - c. If not, why not?

Part 3: Opinions

6. Do you think there an ESG oriented startup can have benefits in terms of performance compared to a non-green one?
7. (What would you make invest in a green startup compared to a non-green one?)
8. Do you think green startups might face a harder time in raising money?

→ Goal: Getting to know the criteria the VCs focus on. See if the name ESG criteria on their own first then question directly if necessary. Seeing if it is just “gut-feeling” or actually ranking and whether they include non-financial criteria. Also see if they are aware of the bias in the VC industry.

Quote:

“Larger investors in particular are conspicuous by their **absence among green startups**. [...]

The discrepancy is even more glaring when it comes to venture capital. After all, 17 percent of conventional startups receive capital from venture capitalists, **but only 9 percent of green startups.**“

9. Why do you think other VCs are financing green startups less?
 - a. Do you think the other VCs are too financially driven?

→ Goal: See if the expert has an opinion/idea why ESG factors might be limiting green startups from raising money.

Part 4: Alternatives & Solutions

10. What could be an alternative for green startups?
 - a. Crowdfunding

11. If a friend of you would have a green startup, what would you recommend him in order to be more successful in raising money?

→ Goal: **Get recommendations from expert for green startups.**

Ending question:

12. What do you think will be the next trend VCs should be aware of?

End: Stating gratitude and end voice recording.

Source: Created by the author

Appendix 2: How to assess/rank/evaluate the criteria

How to assess/rank/evaluate the criteria	Metrics	Subjective Experience	Matrix / Framework	Expert panels	Co-Investor	Weights	NO-GO's
Means mentioned to evaluate the investment opportunitiy.	6	8	6	5	2	1	3
Portugal, public		1		1	1	1	1
Italy, private, conventional	1		1				
Portugal, public	1	1	1	1	1		
Portugal, private, conventional		1					
United Kingdom, private, conventional		1					
Germany, private, conventional	1	1		1			1
Portugal, private, conventional	1	1	1	1			
Portugal, private, Impact (UK backed)	1	1	1				
Germany, public			1	1			
Germany, private, conventional		1					1
Switzerland, private, Impact	1		1				
Legend: 1 = Mentioned 2 = Mentioned as secondary							

Source: Created by the author

Source directory

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