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EMPOWERING THE ENERGY TRANSITION: GREENVOLT'S IPO

A deep dive into Greenvolt: Fair Value and Market Timing

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Abstract

In mid-2021, Altri announced its intention to list its renewable energy subsidiary, Greenvolt, on Euronext Lisbon. The company aimed to diversify its portfolio, increase brand recognition, and become a major European player, but faced a capital shortage to support the strategy. The following case study delves into the CEO's journey towards deciding whether to proceed with the IPO or keep Greenvolt a private entity and pursue alternative capital raising options. Given this, an analysis was performed to assess Greenvolt's valuation and the potential implications of market conditions on the success of the listing.

Acknowledgments

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Keywords

Initial Public Offering; Corporate Finance; Capital Raising Methods; Advantages *versus* Disadvantages; Financial Analysis; Share Price; Market Timing; Sustainability; Energy Transition; Renewables; Business Model; Valuation; Fair Value; Underpricing

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Abbreviations

CAGR Compounded Annual Growth Rate

CEER Council of European Energy Regulators

CEO Chief Executive Officer

DCF Discounted Cash Flow

ESG Environmental Sustainability Governance

EU European Union

EUR Euro

EV Enterprise Value

GDP Gross Domestic Product

GHG Greenhouse Gas

GW Gigawatt

IPO Initial Public Offering

LCOE Levelized Cost of Energy

MoU Memorandum of Understanding

MW Megawatt

PSI-20 Portuguese Stock Index comprising the 18 largest public listed companies

PV Photovoltaic

RE Renewable Energy

RTB Ready-to-Build

S&P 500 Standard & Poor's 500

SBM Sociedade Bioelétrica do Mondego

SWOT Strength Weaknesses Opportunities Threats

TGPH Tilbury Green Power Holdings

TW Terawatt

UK United Kingdom

U.S. United States

USD United States Dollar

YoY Year-on-Year

CASE STUDY – GREENVOLT'S IPO

Introduction

In early 2021, João Manuel Manso Neto was pacing back and forth across his office, questioning whether the timing was right for his company to pursue a public listing. This decision could transform the future of renewable energy in Portugal, since Greenvolt, a rising star in the biomass energy sector was considering an Initial Public Offering (IPO). The company's future, the shareholder's faith and the transition to a greener economy hung in the CEO's hands.

Due to the current volatility of the economic markets, the stakes were high as well as the risks. For Manso Neto, this IPO represented not only a way of raising the necessary capital to fund expansion and increase brand recognition, but also a strong assertion for the future of renewable energy. However, not everyone was convinced, as some board members raised alarms about the growing competition in the biomass sector and the unpredictability of public markets, as investor sentiment was fragile at the time. Thus, the pressure was building, both internally and externally.

The Company

Altri is a leading Portuguese producer of bleached eucalyptus pulp, generating forestry waste as a byproduct of its forest management and pulp production processes. Greenvolt's history began in 2006 with Altri SGPS's idea of generating electricity from the biomass waste produced by its forestry operations. To implement this vision, Altri indirectly acquired a 50.0% stake in *EDP Produção – Bioelétrica*, a company established in 2002 and headquartered in Porto. This partnership with EDP marked the beginning of a strategic effort to integrate biomass into energy generation while enhancing the value of Portugal's forest resources.

Over the years, the company expanded its operations by developing several biomass power plants and securing a significant share of licenses for biomass energy generation, establishing itself as a leader in the Portuguese forest biomass energy sector. Furthermore, the company's operations support sustainable forestry management as they recycle residual biomass, contributing to environmental preservation and mitigate forest fire risks.

In 2018, Altri solidified the commitment to this vision by acquiring the remaining 50.0% of *EDP Produção – Bioelétrica* for EUR 55.6m, gaining full ownership of the company. At the time, the company operated four biomass power plants and was constructing a fifth, allowing Altri to further integrate forestry waste from its business activity into renewable energy production. Following this acquisition, the company was rebranded as *Bioeléctrica da Foz* and consolidated under the Altri Group.

In 2019, the fifth biomass power plant became operational, financed through Portugal's first green bond issuance. This milestone underscored Greenvolt's commitment to sustainable energy production and innovative financing mechanisms. By 2020, Greenvolt expressed its intention to expand into the solar photovoltaic (Solar PV) sector, aiming to diversify its energy portfolio and enhance its position in the market.

In March 2021, the company rebranded as Greenvolt - *Energias Renováveis*, suggesting an ambition for international recognition and plans for expansion abroad. By June this year, the company completed the first step in its internationalization plan by acquiring a majority stake on a British power plant.

Building on its biomass expertise and a growing portfolio, Greenvolt currently develops, operates, and manages power stations and energy facilities across Portugal, and soon in the UK. Additionally, the company actively contributes to research and projects in the green energy field and has established itself as key player in sustainable energy development.

The Business

Greenvolt's revenue capacity relies primarily on the energy generated through biomass, with five power plants operating across Portugal, which represent a total injection capacity of 98 MW, and a recently acquired one in the UK, with 42MW of injection capacity (**Exhibit 1**). In May 2021, Altri and Greenvolt signed a Memorandum of Understanding (MoU) with V-Ridium Europe, for an in-kind capital increase in the amount of EUR 56.0m at the time of Greenvolt's IPO, by delivering 100% of its shares in V-Ridium Power to Greenvolt. Following this, at the end of June 2021, Greenvolt concluded the acquisition of a 51.0% stake in Tilbury Green Power Holdings Limited (TGPH) alongside Equitix (an investor, manager and developer of renewable energy assets in the UK and Europe). This acquisition granted the company control of the Tilbury power plant, a 42 MW biomass facility located near London.

Through these strategic steps, Greenvolt has demonstrated a clear interest in diversifying its generating assets and expand its international presence. Moreover, the company outlined the expected pipeline for the years 2021-2025e (**Exhibit 2**) in its most recent report, evidencing a strong focus on the Solar PV and Wind sectors. In this scenario, Greenvolt will expand its operations in Portugal, Poland, Greece, and Romania, targeting a new construction volume of c. 3.6 GW by 2025 and an operating portfolio of c. 1.1 GW.

Biomass

Biomass refers to renewable organic material from plants and animals, such as wood processing waste, agricultural crops and residues, biogenic materials in municipal waste, or even animal manure and human sewage (Greenvolt 2021). Biomass energy is an innovative way of converting natural waste materials into renewable power (**Exhibit 3**). The process of generating electricity from biomass begins with preparing the biomass to meet specific combustion requirements. Once treated, it is burned at high temperatures (700°C–900°C), producing combustion gases. These gases are used to heat water, converting it into steam, which in turn powers turbines to generate electricity. The electricity produced is then exported to the network through substations and interconnection lines. The complexity of this system lies in its sustainable "closed water cycle", meaning no water is wasted, as it is continuously recycled.

Each biomass power plant has a specific availability and load factor which assess their efficiency and reliability. The availability of a power plant refers to the amount of time that the plant is operational and capable of producing electricity, excluding periods of maintenance, unplanned shutdowns or other unpredictable situations. The load factor measures the ratio between the actual power generated by the plant and the maximum possible power generation if it operated at full capacity for a specific period.

Greenvolt is the largest biomass power producer in Portugal, contributing to the production of around 730 GWh of renewable energy annually. As shown in **Exhibit 1**, the company operates six biomass power plants with a total capacity of 140 MW, including five in Portugal and one in the UK - which Greenvolt will start to consolidate from the 2H21.

The Portuguese plants thrive due to the forestry waste supplied by Altri, as they were strategically built near the parent's company pulp mills, also benefiting from human and technical resources for their operation and maintenance, creating synergies. If the nameplate

capacity was to be stable from 2020 onwards (**Exhibit 4**), these power plants could generate between 728 GWh and 733 GWh annually. Plus, residual biomass creates incentives for cleaning up the forests by developing local biomass markets and by contributing towards more appropriate forestry practices, being considered a powerful mitigating agent against seasonal forest fires that ravage Portugal every summer (Neto 2021).

Across the seas, the UK biomass plant operates using mostly urban waste. Since landfills will be banned in the country by 2025, the use of biomass for electricity production allows the capitalization of a useless by-product. The Tilbury power plant is located 40 km from central London and has an installed capacity of 43.6 MW with an average availability of 91%, according to 2020 values. Thus, the plant is capable of producing 330 GWh to 335 GWh annually. These values are to be included in Greenvolt's financial statements from 2H21 onward, adding to the company's total capacity.

Other Projects - Solar PV and Wind

Although Greenvolt's roots are deeply entrenched in biomass, the company also develops ***Utility-scale*** and ***Distributed energy generation*** projects, operating with onshore Wind, Solar PV and Storage installation plants. Greenvolt's Solar PV and Wind projects expected to develop until 2025, can be classified as "Under Construction", "Ready-to-Build" (RTB), "Advanced stage", and "Early stage", as indicated in **Exhibit 5**. Although most projects are likely to be sold at RTB, Greenvolt aims to retain about 25.0% of the total pipeline for self-use.

Utility-Scale

This branch covers all activities, from the design of the project to its permitting and construction, which implies long timelines and high team-expertise, but less capital throughout the development stages. The Wind and Solar energy production projects are meant to generate

energy on a large scale, with significant infrastructure, contributing to national grids. Large and medium scale projects are defined as those above 10 MW, while small-scale projects are those of 10 MW or less. To complement this, the storage solutions ensure energy can be saved for later use, adding flexibility and reliability to these RE projects.

Distributed energy generation

This business unit focuses on developing and implementing photovoltaic energy projects to be used for self-consumption for both residential and commercial users, mainly through photovoltaic solar panels installed on rooftops. This business area has a high growth potential, particularly in Portugal, as the country has one of the highest solar irradiation levels in Europe (**Exhibit 6**) and one of the lowest penetration rates of distributed energy generation. Plus, these projects aid the transition to carbon-free energy sources, attracting "sustainability-driven" consumers, while also reducing the reliance on traditional energy and lowering electricity costs for businesses and families.

Expansion Strategy

Greenvolt has positioned itself as a leader in the Portuguese renewable energy sector by making strategic acquisitions of smaller players, which allowed the company to effectively scale its operations. **Exhibit 7** illustrates the structural evolution of the Greenvolt Group and the respective ownership percentages.

The company has just begun its internationalization strategy, with the investment of EUR 220m for the acquisition of 51.0% of Tilbury Green Power Holdings, entering the UK biomass market. This move leveraged the company's experience in managing biomass plants, and as João Manso Neto stated, "*Greenvolt's operational excellence and experience in managing biomass power plants led us to believe that internationalization would create value.*

The knowledge from Portugal allowed to improve each project and Tilbury Power Station fits our efficiency, investment and profitability criteria perfectly" (Neto 2021).

Greenvolt's ambition is to further expand its portfolio and continuously increase the pipeline of projects under development. The company strategically choses to focus on the upstream segment of the renewable energy value chain – development and promotion of wind and solar PV energy projects up to RTB – as this phase offers high profitability, with lower capital requirements compared to the construction of power plants (lower level of profitability and high investment needs).

In line with this strategy, Greenvolt recently disclosed plans to enhance its portfolio by acquiring V-Ridium, a company recognized for its expertise and success in renewable energy project development. With more than 200 years of accumulated management experience in the field, V-Ridium developed more than 17 GW and closed transactions in c. EUR 2.5b. Manso Neto believes this acquisition might position Greenvolt as a major player in the European Wind and Solar PV energy market, adding new projects in Poland, Greece, and Italy to the company's growing portfolio.

Additionally, Greenvolt aspires to negotiate and perhaps acquire a percentage of companies that operate in decentralized energy generation, such as Profit Energy and *Perfecta Energia*, to further diversify its energy sources.

The Management Team

Greenvolt's management team stands out for its depth of expertise and proven success, positioning the company as a reliable and credible player (**Exhibit 8**). The CEO, João Manso Neto, brings over 35 years of experience, with 18 years dedicated to the renewable energy industry, including 9 years as the CEO of *EDP Renováveis* (EDPR). His strategic vision and commitment have been key in guiding EDPR through industry challenges and growth.

Alongside him, Greenvolt will benefit from the leadership of Radek Nowak, CEO of V-Ridium Power, who has over 25 years of experience, including 17 years in renewables. Radek's expertise in developing and executing renewable energy projects strengthens Greenvolt's ability to meet its development goals and expand globally. Together, Manso Neto and Nowak ensure the company is well-positioned to become a leader in renewable energy in Europe.

Greenvolt is further reinforced by a diverse board of directors, composed of eleven members who bring a wide range of expertise in business, finance, energy regulation, management, economics and sustainability. The board's long-standing relationship with Greenvolt's parent company, Altri, also enhances its financial stewardship and strategic guidance.

Shareholders Structure

Altri holds, directly or indirectly, the entire share capital of Greenvolt (**Exhibit 9**), and therefore, holds 100% of the voting rights of the company. At this time, Altri's main shareholders are *Promendo Investimentos, S.A.* (18.7% of Altri's voting rights), *Caderno Azul, S.A.* (15.1% of Altri's voting rights), *Actium Capital, S.A.* and *Livrefluxo, S.A.* (each holding 13.0% of Altri's voting rights) and *1 Thing, Investments, S.A.* (10.0% of Altri's voting rights).

After the projected IPO, Altri plans to continue to hold the majority of shares (**Exhibit 10)** and therefore hold sufficient voting rights to approve or block resolutions such as the distribution of dividends and the appointment of the majority of the members of the Board of Directors. Although Greenvolt does not foresee any conflict between Altri's interests and its own, Altri has the power to influence over the business's strategy and financial condition.

Greenvolt's dividend policy aligns with its focus on accelerated growth, as the company does not expect to distribute dividends at least until 2025. Nevertheless, this situation will be assessed annually by the board based on the company's available reserves (Greenvolt 2021).

SWOT Analysis

Greenvolt is well-positioned in the renewable energy industry, benefiting from a strong backing from Altri Group (**Exhibit 11**). The company intends to operate in multiple energy sectors (biomass, wind, and solar) among several regions, namely in Portugal and in the United Kingdom, which provides a strategic advantage by diversifying risk and protecting the company against localized economic downturns. However, this means that Greenvolt is also exposed to exchange rate volatility, as part of its revenues will be coming from countries that do not operate under the euro currency. For instance, any depreciation of the British Pound against the Euro could negatively affect the company's profit.

Greenvolt main business area involves the construction and operation of power plants, as well as consultancy and project management services related to energy efficiency. These operations, namely the construction of power plants, require a high investment in CAPEX and high levels of debt. This poses as a risk due to the volatility of the cashflows the company obtains from its revenue streams, as the sale of projects is periodical, which could lead to liquidity challenges. Moreover, although every biomass power plant has assured its own supply

of biomass through long-term agreements with Altri, the company might still be affected by supply shortages and biomass price variations, since this material was responsible for 41.5% of the energy production revenues in 2020 (Greenvolt 2021), and therefore essential for the course of business.

On the other hand, Greenvolt can capitalize on expansions into different markets where there is a gap in renewable energy fonts, also diversifying revenue streams and reducing dependence on current platforms.

Industry Analysis

After the industrial revolution, the planet began to show signs of environmental distress, and as climate changes became more severe, there was a need for global measures to combat rising temperatures and reduce greenhouse gas (GHG) emissions. These needs led to the signing of the Paris Agreement (2016), the first universal and legally binding climate agreement, aimed at limiting global warming to below 2ºC above pre-industrial levels, and to pursue efforts to limit the increase to 1.5ºC, by reducing GHG emissions and promoting climate health. The agreement started an international movement, boosting demand for clean energy sources, as countries race to meet global climate goals. Thus, in 2020, the European Green Deal became the European Union's (EU) blueprint, laying out a plan to make the continent climate-neutral by 2050. To achieve this, the EU raised the 2030 GHG emissions reduction target, setting proposals to make the climate, energy, transport and taxation policies fit for reducing emissions to at least 55.0% below 1990 values.

With this, many European countries were pushed to set ambitious climate targets for carbon neutrality, which have translated into a rapid growth of the renewable energy sector. This industry focuses on the production of energy from sustainable sources that have low to

zero GHG emissions, such as solar, wind, hydropower, biomass, and other forms of renewable energy. Thus, it has become the centre of the transition to less carbon-intensive and more sustainable energy systems, weakening the demand for traditional energy sources such as coal and natural gas. In the European Net Zero Emissions by 2050 scenario, renewables allow electricity generation to be almost completely decarbonised, and renewable transport fuels and renewable heat contribute to significant emission reductions in other polluting roots such as transports, buildings and industries (IEA 2021).

According to IRENA (2021), currently, only about 50.0% of the generation power installed in Europe comes from renewable sources, but market trends in the sector point in the direction of progressive growth. In this regard, biomass has had a Cumulative Annual Growth Rate (CAGR) of new annual power instalments of renewable technology of 6.6% in the period 2010-2020, though its share in the renewables accumulated power matrix is still residual (3.7% in 2020). Hydro-energy is the most common form of renewable energy, with a c. 44.0% share of the total renewable electric power, although this represents a 32.0% market share decrease since 2010. Solar PV technology has led the growth, with a CAGR of 33.2%, and its installed capacity (708 GW) has nearly reached the one of wind energy (733 GW). Its rapid rise in popularity is owed to its simplicity in construction, the abundance of solar resources, and the decline of the global weighted average Levelized Cost of Energy (LCOE) for PVs (Greenvolt 2021).

Correspondingly, in Europe, the CAGR of new annual power instalments of renewable technology reached 7.2% in the period 2010-2020, which contrasts with the around 37.0% reached globally. Particularly, PV energy showed a CAGR of 17.5%, wind energy had a CAGR of 9.1%, and bioenergy and biomass have shown a CAGR of 4.7%, although its share in the energy matrix remains residual (4.9%) (Greenvolt 2021). Nonetheless, statistics show that wind and solar power-generation growth must nearly triple to reach Europe’s 2030 green deal targets,

which implies adding well over 100 TWh annually until 2030 (Jones 2021), and thus, demanding a heavy investment in renewables.

The first semester of 2020 was marked by supply chain disruptions and construction delays which slowed the progress of renewable energy projects (IEA 2020). Still, the demand for RE continued to be strong despite the unfavourable economic conditions, with annual renewable capacity additions increasing 45.0% to almost 280 GW – the highest increase year-on-year (YoY) since 1999. The exceptional level of new capacity additions is expected to be maintained, with an estimated 270 GW becoming operational globally in 2021 and 280 GW in 2022. This expansion plan exceeds the record-level of annual capacity additions achieved between 2017-2019 by over 50.0%, such that renewables are expected to start accounting for 90.0% of total global power capacity increases in both 2021 and 2022 (IEA 2021).

Costs, Remuneration Schemes and Technological Advancements

The global need to fight climate changes has led governments to support investments in renewable energy generation through fiscal incentives and public financing, as these are integral to the achievement of national climate strategies that aim to cut GHG emissions (Finkelstein, Frankel e Jesse 2020).

In the European Union, the deployment of renewable energy has been predominantly driven by government support schemes. This reflects the fact that, until recent years, renewable technologies were not financially competitive with other energy sources without subsidies. According to the Council of European Energy Regulators (CEER), the volume of publicly supported renewable electricity increased from 297 TWh in 2014 to 422 TWh in 2019, with wind energy constituting most of this increment. In terms of financial support, renewable

electricity producers in the EU received EUR 35.0b in 2018, which increased to EUR 43.0b in 2019, with EUR 19.0b being allocated to Germany alone (Busch, et al. 2023).

In Portugal, the prevalent remuneration schemes are the feed-in tariffs and auctions. The first one corresponds to a remuneration mechanism designed to support and accelerate the installation of renewable energy facilities by providing producers with a fixed remuneration, above market prices, and ensuring stable long-term cash inflows. Likewise, auctions introduced a competitive bidding process for developers to secure contracts at the lowest possible price, particularly for solar PV energy (Greenvolt 2021).

Although investments in renewable energy are still largely dependent on financial support schemes, the need for such assistance is gradually diminishing due to the substantial improvements in supply chains and technology advancements. Thus, renewables are now becoming a viable alternative to fossil fuels like coal and natural gas (Jesus 2021). During the past decade, the most significant decline in LCOE (**Exhibit 12**) came from solar PV (-85.0% from 2010 to 2020), from a value of 381 USD/MWh to 57 USD/MWh, with concentrated solar power (-68.0%), onshore wind (-56.0%), and offshore wind (-48.0%) following the same trend (IRENA 2021).

Macroeconomic Context

With COVID-19 cases continuing to surge across the U.S. and Europe, a return to the pre-pandemic life remains unlikely, with many countries reintroducing restrictions as infection rates surge. Yet, the global economy has shown a surprising level of resilience in adapting to the prolonged crisis. According to the European Commission (2021), the European Union GDP in 2020 contracted by -6.1%, and is expected to growth at around 4.2% in 2021 - the fastest rate recorded in the 21st century – and 4.4% in 2022. Similarly, the inflation rate in the European

Union in 2020 had a value of 0.7% and is expected to be around 1.9% in 2021 (European Commission 2021), reflecting a gradual recovery in economic activity.

Stock markets have experienced a strong recovery since the pandemic downturn in 2020. Global stock indexes are hitting record highs as the economy shows signs of recovery, boosting investor confidence. In the first half of 2021, the S&P 500 rose 15.9% and the STOXX Europe 600 rose 11.1%, while the PSI-20 had a grow of 5.1% (as of July 1st, 2021). The S&P 500 is frequently used as a proxy for the value of the entire U.S. stock market, since the stocks it contains account for roughly 80.0% of the total value of stocks that are publicly available for trading, and so, it is frequently used as a measure of the health of the economy and can serve as an indicator of investor sentiment (Daks e Silbert 2024). Similarly, the PSI-20 is a benchmark stock market index that tracks the performance of the 18 main companies (as of June 2021) within the Euronext Lisbon Stock Exchange.

Due to the indexes' susceptibility to market risk, their performance is largely influenced by major global events, such as the 2008 financial crisis and the COVID-19 pandemic. Despite this, the S&P 500 index has historically returned around 10.0% per year since being created in the '50s (Daks e Silbert 2024), reflecting the structural strength of the U.S. economy. On the other hand, the PSI-20 suffered a sharp decline in 2007 due to the Portuguese crisis, and, ever since, has failed to return to pre-crisis levels, showcasing the ongoing challenges faced by Portugal's economy. **Exhibit 13** illustrates the S&P 500 and PSI-20 performances from 2006 to 2021 adjusted to relative values due to structural differences between the two indexes. By setting both indexes to 100 in June 2006, it becomes clear how each index evolved relative to its starting value.

The PSI-20 underperformance compared to the S&P 500 indicates that Portugal is a less dynamic market for equity investments and poses challenges in attracting capital. So, even

though the company operates in a growing sector, the decision to list its shares on the Euronext Lisbon Stock Exchange market concerns shareholders, as it might become difficult to appeal to investors.

Greenvolt's Comparables

As the sector expands, maintaining a healthy financial performance is critical for renewable energy manufacturers and project developers, as it directly influences their ability to secure low cost of capital to fund capital-intensive expansions. This is because a key measure of financial health for the industry is the stock market, which provides a transparent method of assessing financial performance (IEA 2020). **Exhibit 14** and **Exhibit 15**, provide a visual representation of the comparables' stock market price from 2006 to 2021.

Greenvolt operates in very distinctive projects and most of its pipeline is still in early stages, thus making it hard to find listed peers with similar characteristics. Still, when analysing competitors at an European level (**Exhibit 16**), such as *EDP Renováveis S.A.*, *Iberdrola S.A.*, *Solaria Energía y Medio Ambiente*, *ERG SPA*, *Drax Group*, *Alerion Cleanpower*, among others, discrepancies in multiples can be attributed to Greenvolt's low maturity, as the company has recently started expanding its operations.

Sustainability: ESG

Greenvolt's commitment to sustainability is guided by four pillars that reflect its approach to balancing company progress and planet preservation, these are: Planet, People, Responsibility and Ethics, and Financial Sustainability. The company's intention is to enhance global renewable energy production and contribute to carbon neutrality by providing accessible renewable energy solutions. Nonetheless, the company's mission extends beyond clean energy as Greenvolt places a strong emphasis on fostering an inclusive and supportive work

environment, ensuring the well-being and work-life balance of its employees. The governance model is grounded in ethical conduct, transparency, and responsible practices, in alignment with its commitment to the United Nations Global Compact and the Sustainable Development Goals.

For its commitment, Sustainalytics assigned an ESG Risk Rating of 29.3 (medium risk) and an ESG management score of 50.8/100 (considered strong), indicating solid ESG disclosure and accountability to investors and the public.

The SBM 2019-2029 Green Bond

In 2019, *Sociedade Bioelétrica do Mondego* (SBM), Greenvolt's subsidiary, issued its first green bond to exclusively finance the Figueira da Foz II biomass power plant. The 10-year maturity bond amounted to EUR 50.0m with a 1.9% coupon rate and was the first green bond to be traded in Portugal on Euronext Access Lisbon. The issuance followed the Green Bond Principles published by the International Capital Market Association and obtained a positive Second-Party Opinion from Sustainalytics (an ESG ratings and specialised independent research company). For Greenvolt, this bond was a step towards credibility in sustainable energy aligning with its commitment to sustainable finance.

The IPO

Listing a company means offering its shares to a regulated market, making them available for trading by investors. The listing process provides opportunities for growth by providing access to capital and enhancing the visibility of the company, while supporting its long-term development and strategic goals. However, listing also comes with challenges, as the market is driven by factors beyond the company's control.

To fund the existing investment plan (**Exhibit 2**), Greenvolt needs between EUR 1.5b to EUR 1.8b that are planned to be financed by a combination of cash flow from operations, sale of minority stakes in certain projects, the IPO proceeds and new debt. In 2021, Greenvolt expects to make investments amounting EUR 300.0m: EUR 220.0m corresponding to the acquisition of Tilbury Holdings, EUR 30.0m in V-Ridium's capital needs for investments, and EUR 50.0m in other endeavours in Portugal (i.e. updates in biomass power plants, solar photovoltaic, decentralised generation).

Greenvolt intends to use the proceeds of the IPO to support growth and expansion (**Exhibit 17**), focusing on biomass development in Portugal and Europe, including the acquisition of under-performing biomass companies. Additionally, the company plans to develop solar PV and onshore wind projects and invest in decentralized power generation projects.

Currently, Greenvolt has a share capital of EUR 70.0m and, by proceeding with an IPO, the company plans to raise a maximum of EUR 205.5m. This share capital increase would comprise EUR 149.5m in cash contributions – net proceeds of approximately EUR 142.0m after deducting all expenses in the amount of EUR 7.3m – and EUR 56.0m in contributions in kind.

At this time, Greenvolt has 75,000,000 shares held by Altri and Calma Energia and, upon the completion of the IPO, Greenvolt intends to have 121,376,470 total shares - V-Ridium should hold 11,200,000 shares and other shareholders should represent the remaining float. All Greenvolt's share capital is ought to be admitted to trading on Euronext Lisbon, and if moving forward with the IPO, the board is planning to set the offering price range at EUR 4.25 to EUR 5.00.

The Decision

João Manso Neto, along with the rest of the board, is now facing a crucial decision. When the CEO accepted the challenge to join the company, Manso Neto was entrusted with the mission of transforming Greenvolt into one of the most significant RE companies in Europe. The IPO represents an opportunity for Greenvolt to secure the capital it needs to accomplish its expansion plans and for the company to become internationally recognized, possibly securing additional projects in the future. Yet, Manso Neto recognizes the inherent risks of going public, as the small size of the company might pose difficulties to investor demand. Plus, going public requires a need to sustain growth every quarter, which could shift the company's focus away from innovation, and towards more stable sources of revenue. Considering all the benefits and risks associated, the board must decide the future of the company.

EXHIBTS LIST

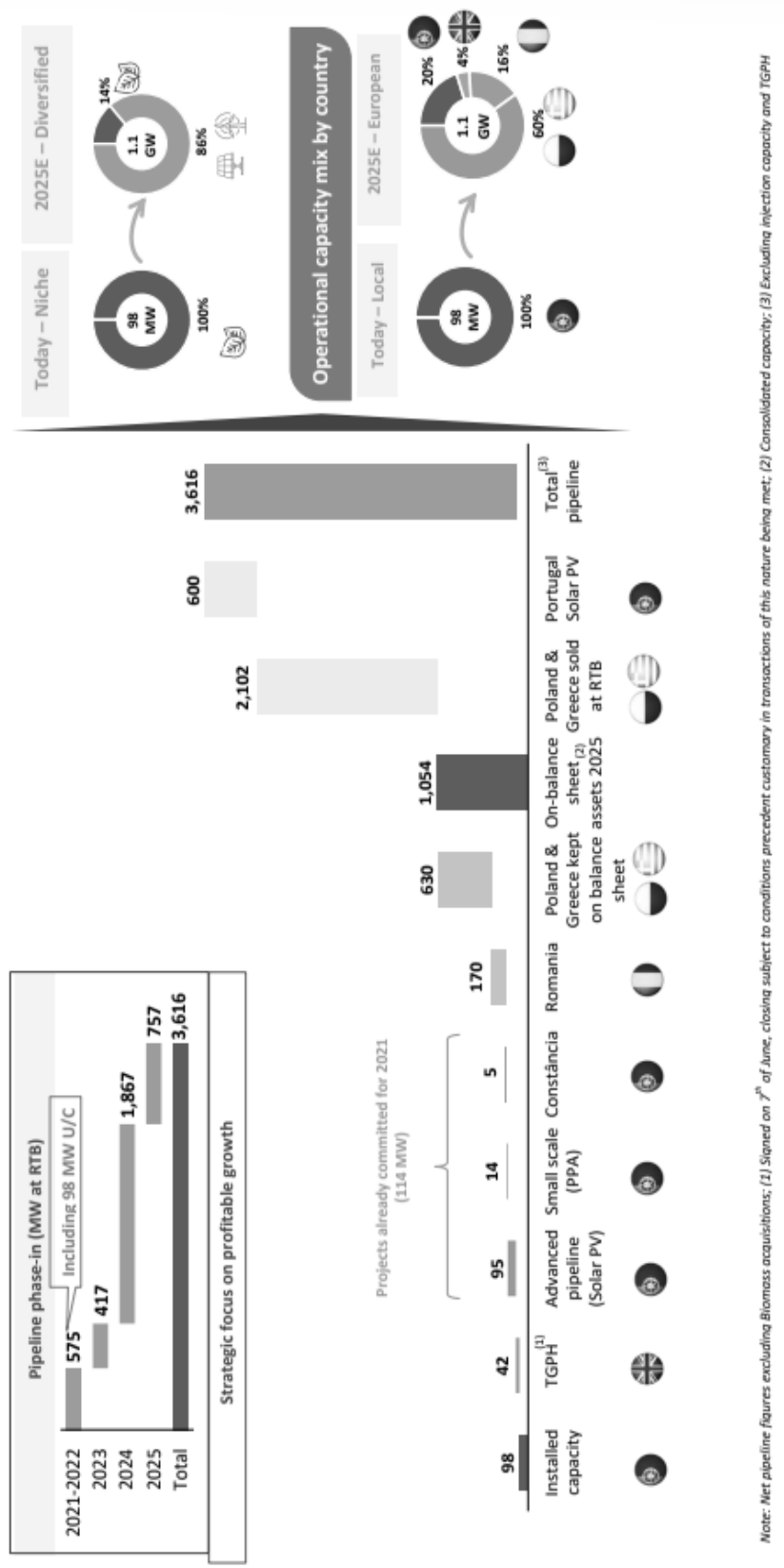
EXHIBITS

Exhibit 1 – Greenvolt's biomass plants information as of July 1st 2021

Power Plant	Country	Beginning of electricity supply to the grid	Installed capacity	Injection capacity (limited)	End of tariff period
Mortágua	Portugal	August 1999	10 MW	10 MW	August 2024
Constância	Portugal	July 2009	13.7 MW	11.8 MW	July 2034
Figueira da Foz I	Portugal	April 2009	34.3 MW	30 MW	April 2034
Ródão Power	Portugal	December 2006	13.2 MW	11.8 MW	November 2031
Figueira da Foz II	Portugal	July 2019	40.9 MW	34.5 MW	July 2044
Tilbury	United Kingdom	January 2019	43.6 MW	41.6 MW	March 2037
Total			156 MW	140 MW (98MW + 42 MW)	

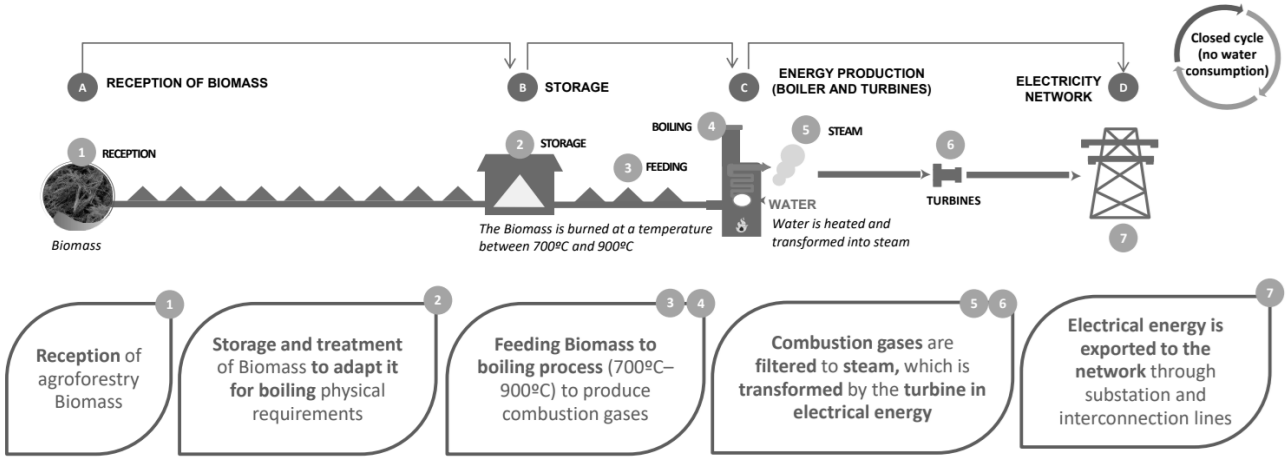
Source: Greenvolt *(2021)*

Exhibit 2 – Greenvolt's pipeline for the period 2H21 – 2025



Source: Greenvolt *(2021)*

Exhibit 3 – The Biomass Production Process



Source: Greenvolt (2021)

Exhibit 4 – Portuguese biomass plants' availability in FY20

Plants	Capacity (MW)	Availability
Mortágua	10	91.6%
Ródão	12	89.2%
Constância	12	91.8%
Fig. Foz I	30	94.5%
Fig. Foz II	35	95.4%

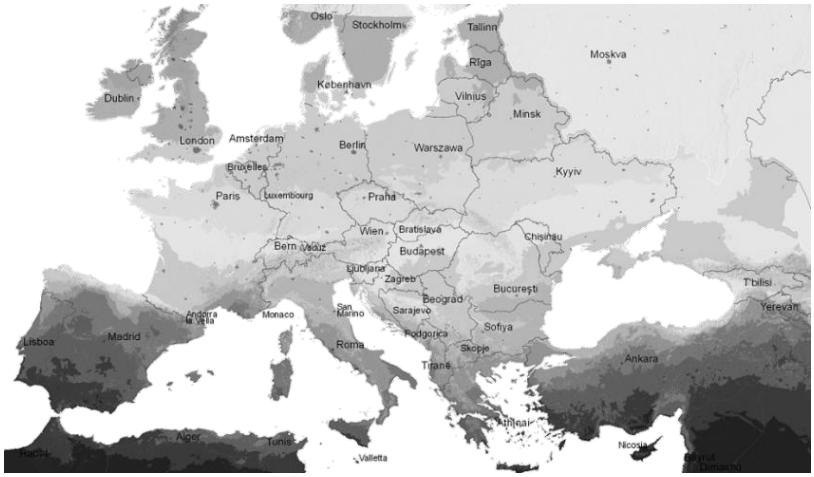
Source: Greenvolt *(2021)*

Exhibit 5 – Greenvolt's pipeline by net installed capacity expected to develop until 2025

Type of power plant	Pipeline per project status				Total (MW)	Mix (%)	
	Under construction	RTB	Advanced phase	Early stage		within country	per country / type of plant
	(MW)	(MW)	(MW)	(MW)			
Portugal	**-**	**62**	**52**	**600**	**714**	**100%**	**20%**
Solar PV power plants	-	62	47	600	709	99%	28%
Biomass power plants	-	-	5	-	5	1%	100%
% Total	0%	9%	7%	84%	100%		
Poland	**98**	**30**	**939**	**1,057**	**2,124**	**100%**	**59%**
Wind power plants	50	0	267	420	737	35%	68%
Solar PV power plants	48	30	672	637	1387	65%	55%
% Total	5%	1%	44%	50%	100%		
Greece	**-**	**-**	**190**	**418**	**608**	**100%**	**17%**
Wind power plants	-	-	74	165	239	39%	22%
Solar PV power plants	-	-	116	253	369	61%	15%
% Total	0%	0%	31%	69%	100%		
Romania	**-**	**-**	**170**	**-**	**170**	**100%**	**5%**
Wind power plants	-	-	100	-	100	59%	9%
Solar PV power plants	-	-	70	-	70	41%	3%
% Total	0%	0%	100%	0%	100%		
Total	**98**	**92**	**1,346**	**2,075**	**3,611**	**100%**	
Wind power plants	50	0	441	585	1076	30%	100%
Solar PV power plants	48	92	905	1490	2535	70%	100%
Biomass power plants	-	-	5	-	5	0%	100%
% Total	3%	3%	37%	57%	100%		

Source: Greenvolt *(2021)*

Exhibit 6 – Solar radiation in Europe



Source: Solargis (2021)

Exhibit 7 – Subsidiaries included in Greenvolt Group's

Company	Registered office	Effective held percentage June 2021	Effective held percentage December 2020	Main activity
Parent company:				
Greenvolt – Energias Renováveis, S.A. (a)	Porto, Portugal			Electricity generation using waste and biomass sources. Power plants: Figueira da Foz; Constância and Mortágua.
Subsidiaries:				
Ródão Power - Energia e Biomassa do Ródão, S.A.	Vila Velha de Ródão, Portugal	100%	100%	Electricity generation using waste and biomass sources. Power plants: Vila Velha de Rodão.
Sociedade Bioelétrica do Mondego, S.A.	Figueira da Foz, Portugal	100%	100%	Electricity generation using waste and biomass sources. Power plants: Mondego (Figueira da Foz).
Bioródão, S.A.	Figueira da Foz, Portugal	100%	100%	Electricity generation using waste and biomass sources
Golditábua, S.A. (b)	Figueira da Foz, Portugal	100%	-	Electricity generation using solar energy
Sociedade de Energia Solar do Alto Tejo (SESAT), Lda.	Nisa, Portugal	80%	80%	Renewable energy sources
Ribatejo Green, Lda (c)	Algés, Portugal	70%	70%	Electricity generation
Amieira Green, Lda (c)	Algés, Portugal	70%	70%	Electricity generation
Paraimo Green, Lda	Algés, Portugal	70%	70%	Electricity generation
Piara Solar, Lda (c)	Algés, Portugal	70%	70%	Electricity generation
Maior Green, Lda (c)	Algés, Portugal	70%	70%	Electricity generation
Greenvolt Energias Renovaveis Holdco Limited (d)	Manchester, United Kingdom	100%	-	Holding
Lakeside Topco Limited (d)	Manchester, United Kingdom	51%	-	Holding
Lakeside Bidco Limited (d)	Manchester, United Kingdom	51%	-	Holding
Tilbury Green Power Holdings Limited (e)	Tilbury, United Kingdom	51%	-	Holding
Tilbury Green Power Limited (e)	Tilbury, United Kingdom	51%	-	Electricity generation using biomass from urban waste wood. Power plants: Tilbury.

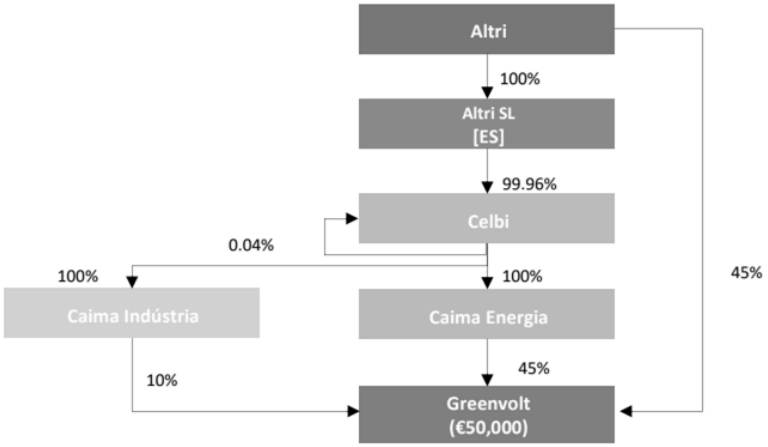
(a) Formerly known as Bioelétrica da Foz, S.A.
(b) Company acquired in December 2020
(c) Company extinguished with effect on 31 March 2021
(d) Company incorporated in the current period
(e) Company acquired with effect on 30 June 2021

Source: Greenvolt (2021)

Exhibit 8 – Executive Profiles: João Manso Neto and Radek Nowak

Source: Greenvolt (2021)

Exhibit 9 – Altri Group's shareholding structure as of 2020



Source: Greenvolt (2021)

Exhibit 10 – Expected ownership breakdown after the IPO

Total Shares	121 376 470	100,0%
The Offering New Shares	30 588 235	25,2%
Contribution in kind New Shares	11 200 000	9,2%
Option Shares	4 588 235	3,8%
Ordinary Shares	75 000 000	61,8%

Shareholders	121 376 470	100,0%
Altri	56 250 000	46,3%
Caima Energia	18 750 000	15,4%
	75 000 000	
V-Ridium	11 200 000	9,2%
Free float	35 176 470	29,0%

*As of July 1st, shares amounted to 75 million

Source: Greenvolt (2021)

Exhibit 11 – Greenvolt's SWOT analysis

Strenghts

- Established expertise of the management team (backing from Altri Group)
- Targeting a diverse portfolio with multiple revenue generation sources (Biomass, Wind, Solar PV) in multiple locations
- R&D Investments

Opportunities

- Growth of renewable energy demand
- Regulatory framework
- Expansion into European markets

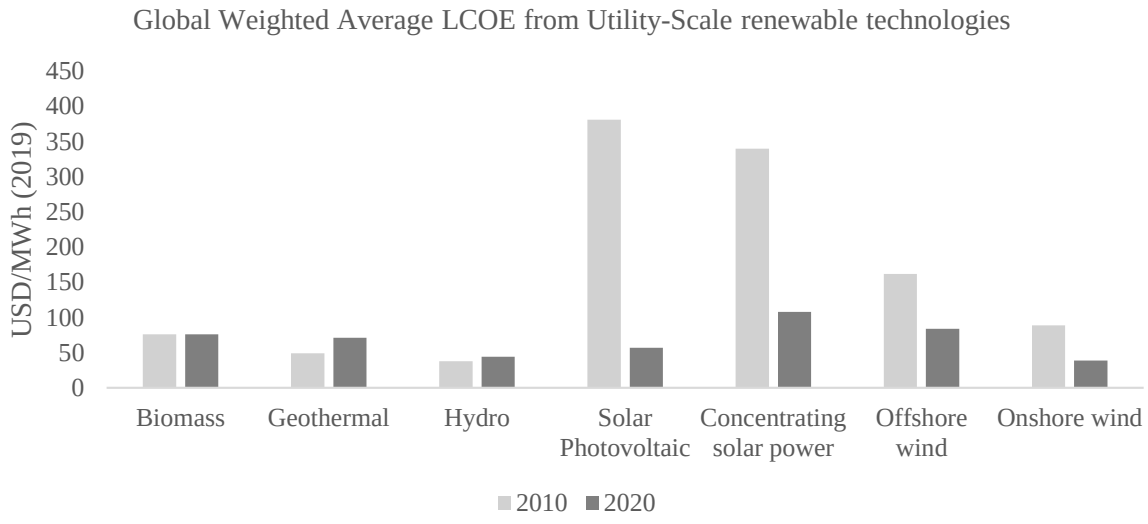
Weaknesses

- Relatively new and small company
- Dependence on Biomass supply
- Price volatility of raw materials
- High CAPEX requirements
- High Debt to Value ratio

Threats

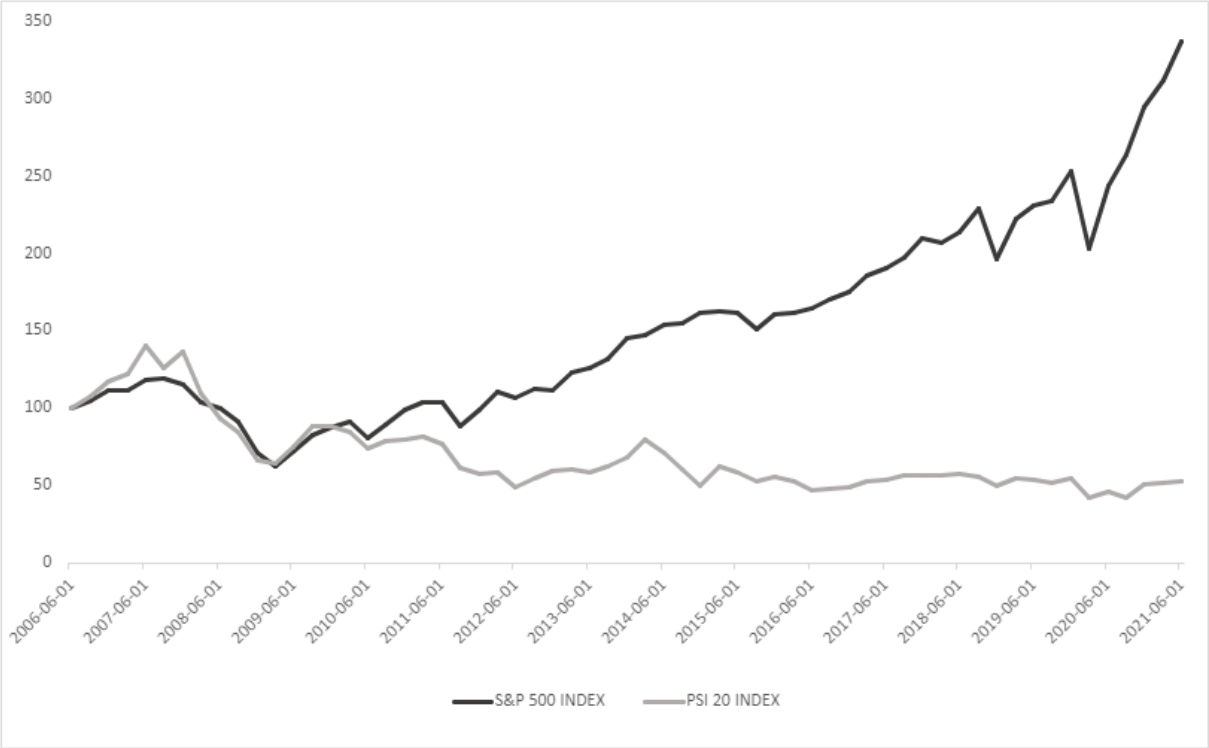
- Regulatory framework
- Intensifying competition from other renewable energy companies
- Substitute technologies might reduce demand for Greenvolt projects
- Market saturation

Exhibit 12 – LCOE from Utility-Scale renewable technologies (2010 *versus* 2020)



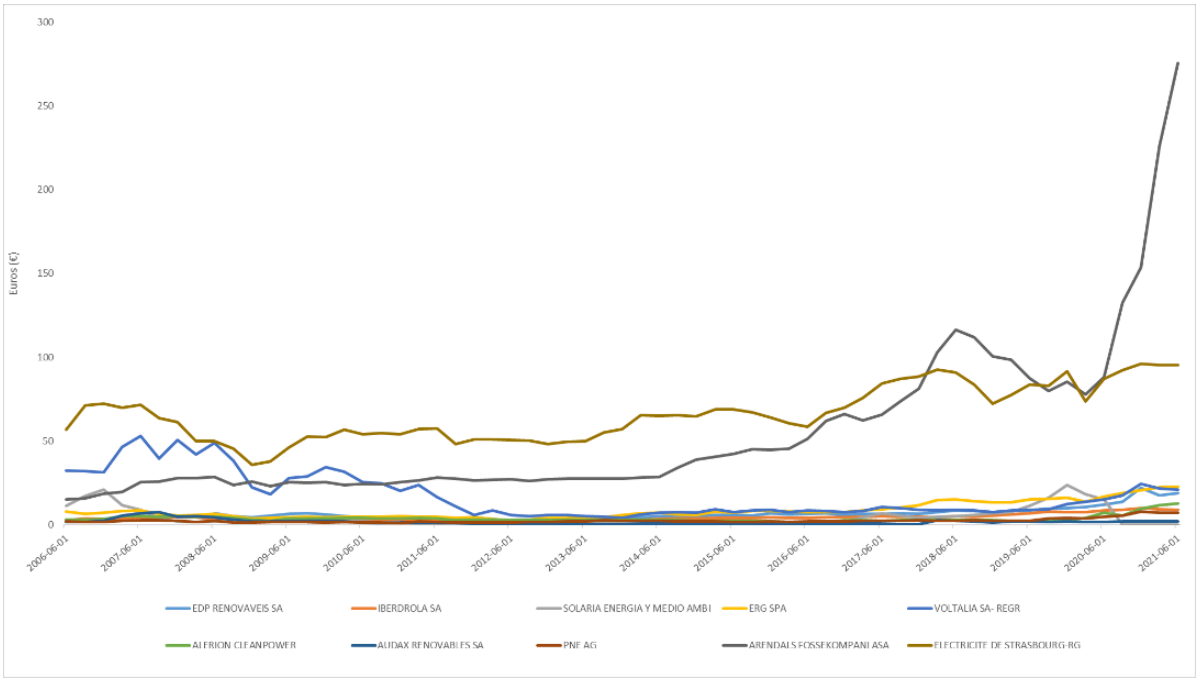
Source: IRENA (2021)

Exhibit 13 – Normalized Performance of S&P 500 and PSI-20 Indexes (2006-2021)



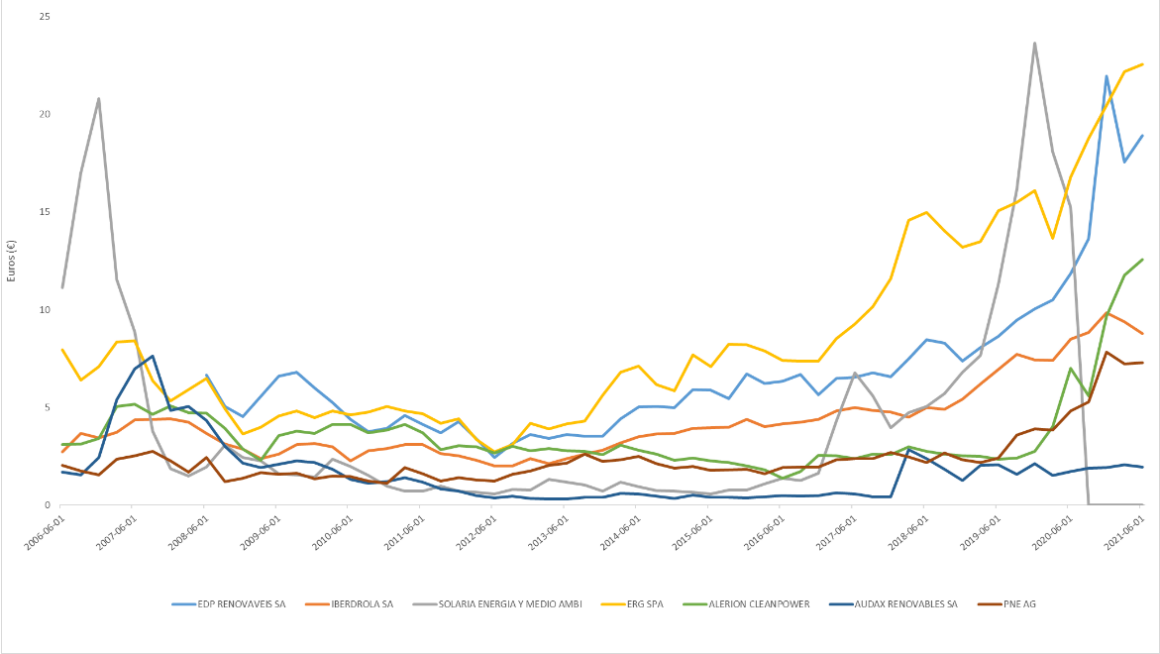
Source: Bloomberg

Exhibit 14 – Stock price of 10 Greenvolt's comparables (2006-2021)



Source: Bloomberg

Exhibit 15 – Stock price (< EUR 25.00) of Greenvolt's main comparables (2006-2021)



Source: Bloomberg

Exhibit 16 – Peer Group Analysis

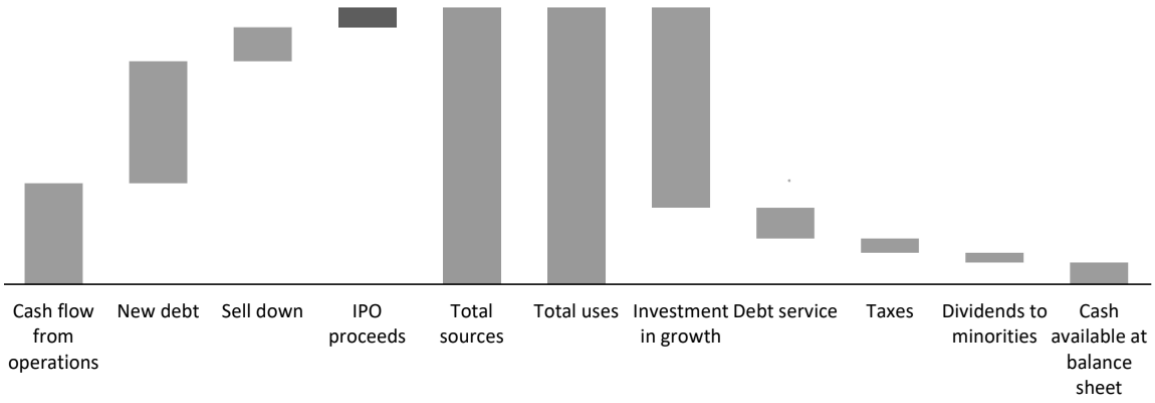
Peer Group Analysis

* values as of 2021/30/06, in local currency

Company / Index	Country	Price 2021 - 30 -06	Current Market Cap 2021 - 30 -06	P/E (Adjusted)	EV / EBITDA	Adjusted EBITDA mg. (%)	Net Debt / EBITDA	Price to Book	Current EV/ 12M trailing Sales	Debt to Equity (%)
S&P 500 INDEX	n/a	4297.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PSI-20	n/a	5035.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EDP Renovaveis SA	SPAIN	18.9	18769	37.4	22.0	71.9	2.8	2.1	14.6	50.8
Iberdrola SA	SPAIN	8.8	65979	16.8	12.3	30.4	4.4	1.5	3.5	97.0
Solaria Energia y Medio Ambiente SA	SPAIN	15.2	1904	48.5	n/a	94.8	n/a	7.7	32.4	241.6
ERG SpA	ITALY	22.6	3738	41.6	13.7	67.3	4.3	2.0	7.5	144.3
Drax Group PLC	BRITAIN	374.4	1690	n/a	12.3	7.6	8.0	1.1	0.7	113.4
Voltalia SA	FRANCE	21.1	2146	940.9	27.2	22.8	7.3	3.2	10.1	151.5
Alerion Cleanpower SpA	ITALY	12.6	731	14.7	13.9	80.6	5.2	3.4	10.7	281.7
Audax Renovables SA	SPAIN	1.9	862	44.7	15.9	1.6	1.8	6.3	0.8	425.2
PNE AG	GERMANY	7.3	565	70.2	23.0	12.2	10.9	2.7	10.2	227.8
Arendals Fossekompani ASA	NORWAY	273.9	16411	127.6	26.4	24.6	-1.9	4.4	4.6	43.1
Electricite de Strasbourg SA	FRANCE	95.5	807	15.8	3.8	20.2	-1.2	1.9	0.8	5.3
Average				**135.8**	**17.1**	**39.5**	**4.2**	**3.3**	**8.7**	**162.0**
Average (EDPR + Iberdrola)				**27.1**	**17.2**	**51.1**	**3.6**	**1.8**	**9.0**	**73.9**

Source: Bloomberg

Exhibit 17 – Greenvolt's sources and uses of funds



Source: Greenvolt *(2021)*

Exhibit 18 – Consolidated Balance Sheet

End in Euros (€)	2018	2019	2020	1H21
ASSETS				
Property, plant and equipment	144 915 916 €	166 809 912 €	160 466 245 €	293 184 060 €
Right-of-use assets		5 737 867 €	5 433 575 €	63 008 777 €
Goodwill				150 868 770 €
Intangible assets	1 537 395 €	1 418 432 €	6 795 875 €	26 619 874 €
Other investments				488 €
Deferred tax assets	2 336 918 €	2 503 285 €	1 493 924 €	1 576 909 €
Total non-current assets	148 790 229 €	176 469 496 €	174 189 619 €	535 258 878 €
Inventories	1500765	3041661	1108	424
Trade receivables			19580	11357240
Assets associated with contracts with customers	8 018 339 €	7 365 847 €	7 476 825 €	17 730 599 €
Other receivables	2 478 325 €	988 262 €	11 578 €	434 582 €
Income tax receivable			387 €	28 152 €
Other tax assets	2 174 477 €	7 271 €	115 287 €	1 379 532 €
Other current assets	140 294 €	203 819 €	506 427 €	4 372 150 €
Derivative financial instruments				8 840 €
Cash and cash equivalents	6 707 457 €	16 107 267 €	14 100 666 €	46 005 679 €
Total current assets	21 019 657 €	27 714 127 €	22 231 858 €	81 317 198 €
Total assets	169 809 886 €	204 183 623 €	196 421 477 €	616 576 076 €
EQUITY AND LIABILITIES				
EQUITY				
Share capital	50 000 €	50 000 €	50 000 €	70 000 000 €
Legal reserve	10 000 €	10 000 €	10 000 €	10 000 €
Supplementary capital	13 150 000 €	13 150 000 €	9 583 819 €	
Other reserves and retained earnings	15 014 208 €	19 772 948 €	39 718 335 €	38 918 387 €
Consolidated net profit for the year attributable to Equity holders of the parent	5 202 616 €	6 795 387 €	17 934 337 €	1 051 699 €
Total equity attributable to Equity holders of the parent	33 426 824 €	39 778 335 €	67 296 491 €	109 980 086 €
Non-controlling interests		13 453 €	14 584 €	40 805 773 €
Total equity	33 426 824 €	39 791 788 €	67 311 075 €	150 785 859 €
LIABILITIES				
Bank loans		49 673 801 €		132 170 709 €
Other loans (such as bond loans)			48 463 769 €	47 227 238 €
Shareholder loans				39 974 360 €
Lease liabilities		6 088 752 €	5 836 636 €	63 320 076 €
Other payables			820 348 €	820 348 €
Other non-current liabilities	1 106 111 €	834 043 €	611 632 €	1 957 217 €
Deferred tax liabilities	3 048 177 €	2 844 621 €	3 258 306 €	3 126 890 €
Provisions	9 238 147 €	11 388 007 €	11 538 164 €	15 679 003 €
Derivative financial instruments				7 295 903 €
Total non-current liabilities	13 392 435 €	70 829 224 €	70 528 855 €	311 571 744 €
Bank loans		294 954 €		3 835 351 €
Other loans (such as bond loans)		50 000 000 €	41 552 483 €	117 791 416 €
Shareholder loans	111 313 870 €	24 596 424 €		
Lease liabilities		273 537 €	284 370 €	364 899 €
Trade payables	6 914 258 €	11 931 566 €	8 537 852 €	20 149 908 €
Other payables	3 462 979 €	1 954 692 €	3 939 205 €	4 266 980 €
Income tax payables	944 931 €	150 718 €	3 411 514 €	1 380 272 €
Other tax liabilities		4 012 039 €	565 732 €	3 476 886 €
Other current liabilities	354 589 €	348 681 €	290 391 €	1 866 120 €
Derivative financial instruments				1 086 641 €
Total current liabilities	122 990 627 €	93 562 611 €	58 581 547 €	154 218 473 €
Total liabilities	136 383 062 €	164 391 835 €	129 110 402 €	465 790 217 €
Total equity and liabilities	169 809 886 €	204 183 623 €	196 421 477 €	616 576 076 €

Source: Greenvolt *(2021)*

Exhibit 19 – Consolidated Income Statement

End in Euros (€)	2018	2019	1H20	2020	1H21
Revenue	50 537 103 €	64 283 355 €	46 398 944 €	89 877 619 €	41 852 888 €
Other income	3 313 368 €	851 448 €	111 206 €	222 437 €	111 465 €
Costs of sales	-19 870 281 €	-24 880 975 €	-21 490 355 €	-39 028 957 €	-18 229 810 €
External supplies and services	-13 517 660 €	-17 470 548 €	-9 230 151 €	-17 920 494 €	-12 239 167 €
Payroll expenses					-894 039 €
Provisions and impairment reversals /(losses) in current assets				41 €	
Other expenses	-364 828 €	-82 425 €	-98 945 €	-129 539 €	-23 082 €
EBITDA	20 097 702 €	22 700 855 €	15 690 699 €	33 021 107 €	10 578 255 €
Amortization and depreciation	-7 764 671 €	-10 623 246 €	-6 069 379 €	-12 148 457 €	-6 612 956 €
Impairment reversals /(losses) in non-current assets	-5 500 000 €			6 335 742 €	
EBIT	6 833 031 €	12 077 609 €	9 621 320 €	27 208 392 €	3 965 299 €
Financial expenses	-620 739 €	-1 872 466 €	-872 985 €	-1 791 223 €	-779 617 €
Financial income	443 €	480 €	4 €	67 €	17 €
Profit before income tax and CESE (EBT)	6 212 735 €	10 205 623 €	8 748 339 €	25 417 236 €	3 185 699 €
Income tax	-1 010 119 €	-2 616 493 €	-1 855 271 €	-6 412 734 €	-1 138 113 €
Energy sector extraordinary contribution (CESE)		-797 390 €	-1 078 934 €	-1 078 934 €	-1 016 000 €
Consolidated net profit for the year	5 202 616 €	6 791 740 €	5 814 134 €	17 925 568 €	1 031 586 €
Attributable to:					
Equity holders of the parent	5 202 616 €	6 795 387 €	5 814 372 €	17 934 337 €	1 051 699 €
Non-controlling interests		-3 647 €	-238 €	-8 769 €	-20 113 €
	5 202 616 €	6 791 740 €	5 814 134 €	17 925 568 €	1 031 586 €
Earnings per share					
Basic	520,00	680,00	581,44	1793,00	11,00
Diluted	520,00	680,00	581,44	1793,00	11,00

Source: Greenvolt *(2021)*

Exhibit 20 – Consolidated Cash Flow Statement

End in Euros (€)	2018	2019	1H20	2020	1H21
Receipts from customers	55 173 791 €	80 445 458 €	56 452 832 €	110 433 281 €	43 796 050 €
Payments to suppliers	-41 184 453 €	-47 361 213 €	-36 572 910 €	-67 434 325 €	-33 696 130 €
Payments to personnel					-757 379 €
Other receipts/(payments) relating to operating activities	-2 838 857 €	889 978 €	-6 497 305 €	-12 626 081 €	-3 807 574 €
Income tax (paid)/received	-1 970 454 €	-3 636 676 €		-1 729 279 €	-3 411 513 €
Cash flows generated by operating activities (1)	9 180 027 €	30 337 547 €	13 382 617 €	28 643 596 €	2 123 454 €
Receipts arising from:					
Interest and similar income	482 €	479 €	4 €	55 €	18 €
Payments relating to:					
Investments		-18 000 €		-821 779 €	-169 289 564 €
Property, plant and equipment	-43 395 327 €	-31 829 710 €	-768 422 €	-2 955 492 €	-2 146 969 €
Intangible assets					-20 001 370 €
Cash flows generated by investing activities (2)	-43 394 845 €	-31 847 231 €	-768 418 €	-3 777 216 €	-191 437 885 €
Receipts arising from:					
Loans obtained		180 000 000 €	135 000 000 €	400 000 000 €	291 006 060 €
Shareholders loans	81 500 000 €	5 000 000 €			39 974 360 €
Capital contributions				9 900 €	50 000 000 €
Capital contributions by non-controlling interests					40 817 606 €
Payments relating to:					
Interest and similar expenses	-778 769 €	-1 438 513 €	-907 473 €	-1 441 761 €	-2 542 740 €
Loans obtained	-52 944 375 €	-80 000 000 €	-140 000 000 €	-410 000 000 €	-189 605 501 €
Shareholders loans		-92 230 135 €		-14 913 000 €	
Lease liabilities		-421 858 €	-264 060 €	-528 120 €	-285 180 €
Other financing transactions					-8 145 161 €
Cash flows generated by financing activities (3)	27 776 856 €	10 909 494 €	-6 171 533 €	-26 872 981 €	221 219 444 €
Cash and cash equivalents at the beginning of the year	13 145 419 €	6 707 457 €	16 107 267 €	16 107 267 €	14 100 666 €
Net increase/(decrease) in cash and cash equivalents: (1)+(2)+(3)	**-6 437 962 €**	**9 399 810 €**	**6 442 666 €**	**-2 006 601 €**	**31 905 013 €**
Cash and cash equivalents at the end of the year	6 707 457 €	16 107 267 €	22 549 933 €	14 100 666 €	46 005 679 €

Source: Greenvolt *(2021*)

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TEACHING NOTE – Rita Machado Belo

Case Synopsis

In early 2021, Altri, a Portuguese pulp and paper company, was planning to list Greenvolt, its renewable energy subsidiary, on Euronext Lisbon. Greenvolt, a prominent player in the biomass energy sector in Portugal, has recently expanded its operations internationally with the acquisition of a biomass plant in the UK. To sustain Greenvolt's ambitious growth strategy, the CEO João Manso Neto believes a public listing could be a mean to acquire the necessary funding. The proceeds would be directed towards diversifying the company's revenue streams by expanding into the solar photovoltaic and wind energy sectors, positioning Greenvolt as a key player in the European renewable energy market.

Despite the optimism surrounding renewable energy, the potential listing raises concerns among shareholders. As an emerging company, Greenvolt's future hinges on its ability to execute its pipeline amidst a highly competitive and capital-intensive industry. The pressure was building… would the IPO be a big step taken too soon, or was Greenvolt prepared to take on the challenges and opportunities of a public listing?

Learning Objectives

This case delves into the complexities of the journey of a company towards being publicly listed. The class can assess the fair value of an initial public offering in a real-world environment, where it is often necessary to make strong assumptions and employ various valuation methods due to the lack of information available. Plus, students can access the motivations and incentives for a company to go public, and the different capital raising options available for Greenvolt, as well as the risks involved in each choice.

Target Audience

This case is meant for courses at the BSc, MSc or MBA levels related to subjects such as Corporate Finance, Applied Corporate Finance, Entrepreneurial Finance and Venture Capital, Financial Statement Analysis, Investments, or similar topics.

Teaching Plan

This case is indicated for a 90-minute session in courses related to Corporate Finance. Prior to the class, students should prepare the reading of the case and respond to the proposed assignment questions.

Assignment Questions

Question 1. If Greenvolt decides to go forward with the IPO, at what price should it list its shares?

1.1 Perform a valuation by means of a DCF and compare the obtained value to the indicative offering price range João Manso Neto is considering listing the shares at.

1.2 Similarly, could comparable companies be reliably used to estimate Greenvolt's fair value, and what are the limitations of this approach in the current market environment? Perform a relative valuation to support your reasoning.

Question 2. Given the unfavourable market conditions instigated by the COVID-19 pandemic, should João Manso Neto go through with the IPO? What other capital raising methods could the company consider?

Question 1.1.

A valuation is the process of theoretically determining the correct value of a company, asset or investment, as opposed to its cost or current market value, by attempting to estimate its future earnings potential (Schmidt s.d.). However, traditional business valuations are relatively subjective since they rely on the judgement of the valuator for the assumptions about future performance, which can easily diverge from reality (Venture First 2023). Valuing Greenvolt is particularly more challenging since the company relies on projects that, while promising, come with the risk of implementation and realization. The reason is that renewable energy projects face several challenges such as the ability of the company to deliver its pipeline, the plants' dependence on biomass, wind, and solar input, potential delays or unpredictable construction/maintenance costs, and legal and governmental risks.

Greenvolt's IPO took many investors by surprise since the company faces inherently unstable cash flows due to its operations being centred on renewable energy projects, with periods of high profitability prompted by the sale of relevant pipeline, followed by periods with a short amount of deals, when the company's revenues rely solely on the production and sale of energy. Plus, this unsteadiness is compounded by the capital-intensive nature of Greenvolt's projects, which adds pressure to these already volatile cash flows. This unpredictability of earnings can negatively affect share price performance, as investors typically favour companies that generate strong cash inflows, since such companies are usually in a stronger financial position and tend to see their stock prices appreciate over time, being perceived as a less risky investment (Harper 2024).

Therefore, what could set Greenvolt apart from the increasing flood of developers of renewable projects, and de-risk our forecasts of capacity deployment, cash flow generation, and valuation, is its knowledgeable management team. João Manso Neto was a very experienced

and respectable individual in the renewable energy industry, being the former CEO of EDP Renováveis (EDPR) and board member of EDP. Furthermore, Radel Nowak was the CEO of V-Ridium Power and had more than 25 years of experience in creating and executing renewable energy projects. In this industry, experience in securing and developing projects is essential to enhance customer demand (Jesus 2021), hence, without this fundamental point, the assumptions would have to be significantly more conservative due to the possibility of the company failing to deliver its capacity deployment expectations.

Discounted Cash Flows (DCF) Valuation

A DCF is a valuation method where a business's unlevered free cash flow is forecasted into the future and is discounted back to the present at the firm's weighted average cost of capital (WACC) (Schmidt s.d.). To derive Greenvolt's value, two valuation approaches were performed: **(i)** In the first one, each segment was valued independently, and the results were combined to obtain a **consolidated DCF valuation**; **(ii)** In the second approach, individual DCF valuations were computed for each of the business areas and the results aggregated using a **Sum-Of-The-Parts (SOTP) approach**.

The company's business was divided into two major areas: (i) "Biomass", which includes power plants in both Portugal and the UK; (ii) "Other Projects", which includes Solar PV and Wind utility-scale projects and decentralized generation projects over several countries. The core of this valuation exercise relies on the company's pipeline guidance up to 2025 (Greenvolt 2021), which illustrates an intention to grow its operational pipeline from 140 MW at the date of the IPO, to 1.1 GW by the end of 2025e. From 2025 onwards, the segments' revenue was estimated assuming a stable MW capacity.

EBITDA: The OPEX for a typical biomass power plant in Portugal is approximately EUR 50.0 per MWh (Greenvolt 2021), which includes biomass costs, Operating & Maintenance

(O&M) costs, insurance costs, supplies (such as water, electricity, gas and chemicals used in the process), and other costs. To keep a conservative approach, a stable EBITDA margin, similar to historical levels, was considered. For biomass plants, historical EBITDA margins have hovered around 35.0%, therefore, a value of 30.0% of revenues was assumed, as the operational efficiency of the Tilbury plant is still unknown and therefore, a boundary for possible EBITDA margin decreases was added. Regarding "Other Projects", Solar PV and Wind plants typically have high initial CAPEX, but relatively low operating expenses once they are running, since solar panels and wind turbines have minimal cost requirements (Greenvolt 2021). But, since there are no historical values for the installed pipeline that is to be used by Greenvolt, the "Organic" EBITDA margin was equalized to the one of its main peers (c. 50.0% of revenues) for both Solar PV and Wind projects (**Exhibit 1**). For projects that are to be sold during the course of business according to the company's predictions (such as RTB and Portugal's Solar PV projects), the proceeds from the sale of the assets minus the investment (CAPEX) occurred in the respective project were allocated to EBITDA as capital gains. Given this, the EBITDA for "Other Projects" is the sum of the "Organic" EBITDA of the installed pipeline and the Capital Gains from the sale of assets.

CAPEX: CAPEX (**Exhibit 2**) includes two components: capital expenditures for the construction of new projects, which depend on the quantity of new installed MWs; and CAPEX related to the maintenance and refurbishment of power plants, which depend on the quantity of MWs Greenvolt is operating at a specific time. The expenses incurred with the construction of new MWs were forecasted using Greenvolt's CAPEX guidance, which predicts an average investment of EUR 1,500,000 per new installed MW on biomass plants, EUR 22,500 per new installed MW on Solar PV plants, and EUR 33,750 per new installed MW on Wind plants (**Exhibit 3**). In 2021, however, Greenvolt expects to make capital investments of EUR 300.0m, of which EUR 220.0m refer to the acquisition of the Tilbury plant. According to Greenvolt

(2021), maintenance CAPEX for biomass plants had a historical average of EUR 2,500 per MW annually, and so, it was assumed an equivalent value for Solar PV and Wind plants maintenance.

Depreciation & Amortization (D&A): Due to the heavy capital investments that Greenvolt has planned for the next years, D&A was computed as a percentage of Property, Plant and Equipment (PPE) and Right-of-Use (RoU) assets (**Exhibit 2**). Based on Greenvolt's historical financial statements, a median D&A rate of 6.1% was derived by dividing historical D&A by the net PPE and RoU assets, leading to a more aggressive D&A value in early forecasting years because of an increase in assets instigated by high project building. D&A was allocated to the "Biomass" and "Other Projects" segments in proportion to their respective revenues, plus, it was hypothesized that 30.0% of D&A would be allocated to RoU assets.

Change in Net Working Capital (NWC): Working capital was calculated as a function of revenues based on the company's historical cash cycle (**Exhibit 2**). Receivables were assumed to be collected within 100 days, inventories to be used within approximately 0.004 days (as RE generation does not require a heavy number of inventories), and payables would be settled within 175 days. Given this, the company benefits from a favourable cash cycle, as it can collect payments from customers faster than it pays suppliers, enjoying a cash surplus. Changes in NWC were computed by subtracting NWC of the current period by that of the previous period. As it is not possible to allocate changes in NWC between the company's segments, it was assumed that these would be zero in the **SOTP approach (ii)**, only applying it on the **consolidated DCF approach (i)**.

EBIT and NOPLAT: EBIT was obtained by subtracting Depreciation & Amortization from the computed EBITDAs. The NOPLAT was then calculated by applying a tax rate of 27.0% to the EBIT, according to the company's historical values.

Weighted Average Cost of Capital (WACC): According to Bloomberg (**Exhibit 4**), the yield on the 10-year Portuguese Obrigações do Tesouro as of June 30th 2021 was of 0.4%, and so, this value was considered Greenvolt's risk-free ratio, as Portugal is the main sector where the company operates. Similarly, Bloomberg states that the market return in Portugal for the same period is of 9.3%, calculated using the PSI-20 (according to **Exhibit 5**), which derives a market premium of 8.9%. The beta was computed using the returns on Greenvolt's most analogous peer (EDPR) against the returns of the PSI-20 for the years 2020 and 1H21, deriving a value of 1.22. Lastly, a long-term D/V ratio of 40.0%, similar to the one of its main peers (EDPR and Iberdrola), and a tax rate of 27.0% (according to historical values) were assumed. Greenvolt's current credit rating was computed using the interest coverage ratio for the 1H21 (5.08x), which implies a credit rating of A- and a spread on the cost of debt of 1.2% (**Exhibit 6**). With these values and using the CAPM formula, the cost of equity (11.2%) and the tax adjusted cost of debt (1.2%) were computed, deriving a WACC of 7.2% (**Exhibit 7**). The WACC was hypothesized to be alike for both "Biomass" and "Other Projects" segments.

(i) Consolidated DCF Approach

Discounted FCF: To obtain the free cash flows, Depreciation & Amortization was added to the NOPLAT, while CAPEX and changes in NWC were removed. Lastly, the discounted FCF was obtained by discounting the FCFs to the WACC (**Exhibit 8**).

Terminal Value (TV): The terminal value was computed using a perpetuity formula and a terminal growth rate of 2.0% was hypothesized, according to the industry long-term CAGR (Greenvolt 2021). The present value of the TV was computed by discounting it to the WACC.

Enterprise Value and Share Price: By adding the terminal value and the discounted FCFs, an Enterprise Value (EV) of EUR 1,257m was obtained. Minorities were computed as a function of non-current assets according to historical values, deriving a value of EUR 48.9m

for the first period of estimations. By removing the forecasted Net Debt [1] and the Minorities from the EV, an Equity Value of EUR 805m was derived. The total share capital of the company will be composed of 121,376,470 shares, and so, a fair value of EUR 6.6 per share was reached.

Sensitivity Analysis: **Exhibit 9** discloses the sensitivity analysis performed to evaluate how changes in key variables affect the company's fair value and assess the impact of potential variations in the projected assumptions. The valuation relies heavily on the terminal growth rate, the WACC and the terminal EBITDA margin. Therefore, the terminal growth rate of the company was varied with the WACC, reaching a share value that ranges from EUR 4.6 to EUR 11.5. Then, the company's terminal EBITDA margin was varied with the WACC, obtaining a share value of EUR 4.6 in the worst-case scenario and EUR 10.5 in the optimistic scenario. This suggests a high degree of uncertainty regarding the fair value of Greenvolt. Nevertheless, the company's indicative offering price range of between EUR 4.25 and EUR 5.00 per issued is fairly similar to our sensitivity ranges.

(ii) Sum-of-the-parts approach

Discounted FCF: To obtain the free cash flows, Depreciation & Amortization was added to the NOPLAT, while CAPEX was removed. Lastly, the discounted FCF was obtained by discounting the FCFs to the WACC (**Exhibit 10**).

Terminal Value: The terminal value was computed using a perpetuity formula and a terminal growth rate of 2.0% was hypothesized. The present value of the TV was computed by discounting it to the WACC.

Enterprise Value and Share price: By adding the terminal value to the discounted FCFs, an EV of EUR 614m was obtained for the "Biomass" segment, and an EV of EUR 652m for

[1] Net Debt = Total financial debt + Lease liabilities - Cash

the “Other Projects” segment, reaching a total EV of EUR 1,266m. Minorities were computed as a function of non-current assets according to historical values, deriving a value of EUR 48.9m for the first period of estimations. By removing the forecasted Net Debt and the Minorities from the EV, a total equity value of EUR 813m was obtained. The total share capital of the company will be composed of 121,376,470 shares and so, a fair value of EUR 6.7 per share was obtained.

Sensitivity Analysis: A sensitivity analysis was performed on the share price by varying the WACC with the terminal growth rate of the “Biomass” segment (**Exhibit 11**). In the worst-case scenario, we observed a share price of EUR 4.6 while on the best-case scenario, we obtained a share price of EUR 11.6. Similarly, by varying the terminal EBITDA margin of the “Biomass” segment with its WACC, a share price range that varies from EUR 4.6 to EUR 10.7 was obtained.

Discussion: Greenvolt’s indicative offering price ranges between EUR 4.25 and EUR 5.00 per share. However, the goal of an IPO must be to correctly price the stock to increase its attractiveness, and thus investor demand. Usually, as the stock begins its first trading day, its price adjusts to reflect what the market believes to be the fair value of the respective company (Kagan 2020). This immediate shift often leads investors to label the said IPO as successful or not: If the price adjusts upwards, the IPO may be considered a success, otherwise it may be a failure. Therefore, most companies choose to underprice its shares and reward investors who enter the company early.

According to Jay Ritter’s research, the average first-day returns for IPOs on companies going public on major U.S. exchanges in 2021 was of about c. 30.0% (**Exhibit 12**), but if we take the average from 1960 to 2023, this value is of 17.5% (Loughran, Ritter e Rydqvist 2024). In Portugal, however, the average first-day returns from 1902-2017 was of 11.7% (Loughran,

Ritter e Rydqvist 2024), while in Europe, these values hoover from 3.3% in Russia to 50.8% in Greece (**Exhibit 13**). Due to the unfavourable economic conditions instigated by the COVID-19 pandemic, Greenvolt's chosen IPO discount, at the time, was hypothesized to be of around 20.0% - analogous to EDPR's discount at the time of its IPO - yielding a fair value of EUR 5.3 per share in the **consolidated DCF approach (i)** and of EUR 5.4 in the **SOTP approach (ii)**, which is much more in line with the true indicative offering price range (EUR 4.25 – EUR 5.00).

Question 1.2.

A relative valuation is a method used to estimate the value of an asset based upon how similar assets are currently priced by the market. This approach assumes that similar assets should trade at equivalent prices since they share similar risks and return opportunities (Damodaran 2018). The biggest difference between the discounted cash flows and relative valuation methods is that, in the first case, the forecast on the intrinsic value of an asset is based on its capacity to create future prospects, while in the second case, we are estimating how much an asset is worth by looking at what the market is willing to pay for similar securities. If the market is correct, however, discounted cash flow models and relative valuations should present similar values (Damodaran 2018).

The first step in a relative valuation is to find comparable assets that are trading in the market and operating in the same sector. In the case of Greenvolt, comparable companies include: *EDP Renováveis*, *Iberdrola*, *Solaria Energia y Medio Ambiente*, *ERG*, *Drax Group*, *Voltalia*, *Alerion Cleanpower*, *Audax Renovables*, *PNE*, *Arendals Fossekompani*, and *Electricite de Strasbourg*.

To ensure comparability, market prices should be standardized to common variables. In the context of stocks, this standardization requires converting the market values into multiples

of earnings, book value or revenues (Damodaran 2018). For the purpose of this valuation, the 2021e EV/EBITDA (adj.), EV/Sales, P/B, and P/E, obtained from Bloomberg as of June 2021 were analysed. The median EV/EBITDA (adj.) for Greenvolt's comparables stood at 14.9x, while the average stood at 17.1x, with a minimum value of 3.8x obtained by *Electricite de Strasbourg* and a maximum of 27.2x obtained by *Voltalia*.

The Enterprise Value was computed by multiplying the average EV/EBITDA ratio by Greenvolt's forecasted EBITDA value for 2022e (EUR 73.2m) and by discounting it to the corresponding year, which marks the beginning of our estimations (**Exhibit 14**). This resulted in an Enterprise Value of EUR 1,250m and, after removing the Net Debt and the Minorities, in an Equity Value of EUR 797m. Thus, a fair value of EUR 6.6 per share was obtained. By using the same logic as in the DCF valuations (**Question 1.1**), an IPO discount of 20.0% was considered, reaching to a share price of EUR 5.3.

A sensitivity analysis was performed on the EV/EBITDA multiple, as this value is the core of our valuation, by adjusting it by +1x, +2x, +3x, and –1x, -2x, -3x, as expressed in **Exhibit 14.** This resulted in an exit value that ranges from EUR 1,030m to EUR 1,469m, and thus, in a share price that varies from EUR 4.76 to EUR 8.37. Greenvolt's indicative offering price range (EUR 4.25 to 5.00) is relatively close to these values, plus, these are fairly similar to the ones obtained in the DCF valuations, suggesting that the Relative Valuation holds some true value. However, high growth companies usually trade at higher multiples than mature companies in the same sector (Damodaran 2018), and so, the multiples used might not be a good representation of Greenvolt's fair value at the time of its IPO. Given this, the financial performance of Greenvolt's most relevant peers - *EDP Renováveis and Iberdrola Renovables* - was analysed at the time of their respective IPOs, as both companies, like Greenvolt, served as the renewable energy arm of a larger holding company and went public during an economic downturn.

EDP Renováveis (EDPR) was listed in July 2008 at Euronext Lisbon, during one of the most severe worldwide economic crises in history. Between July 2007 and the time of *EDP Renováveis*' IPO, the PSI-20 fell by more than 25.0% as global markets were pressured. EDPR was the third partial listing of a renewable energy arm by an European utility company, however, given the poor performance of its peers, the company faced some concerns. At the time, *Iberdrola Renovables* was trading below its offering price and *EDF Energies Nouvelles* shares had lost a fifth of its value in six months (Financial Times 2008). Therefore, the company's main risk was to deliver on investor's expectations. Thus, *EDPR* decided to apply a discount of more than 20.0% on its fair value to increase the likelihood of a successful listing in light of the unfavourable market conditions. However, this strategy proved to be ineffective, as *EDPR*'s share price dropped more than 40.0% within the first four months of its listing due to low investor demand and a surprisingly negative operational result.

Iberdrola Renovables was listed in 2007 at the bottom of the indicative range of EUR 5.30 to EUR 7.00 per share. Although it was well above the valuation multiple on which the parent company *Iberdrola* traded, the company ended up reaching a value of EUR 3.05 in 2008, one year after its listing. Less than four years after its IPO, in 2011, the subsidiary was excluded from the trading markets due to its poor performance, at a price of EUR 1.79 per share (-66.2% *versus* listing value).

Discussion: Valuing Greenvolt solely based on a Relative Valuation (i.e. using the multiples of its comparable companies) is unlikely to provide an accurate estimate of the company's fair value upon its IPO. It was hypothesized that, given the fact Greenvolt is a fast-growing company undergoing multiple projects, and consequently having volatile cash flows, its operational risks will be hardly reflected in a simple multiple valuation as its comparables do not find themselves at the same growth stage. On another note, looking at *EDPR* and *Iberdrola Renovables*, it was underscored how unfavourable market conditions and investor

sentiment (due to the 2007 recession) can impact the outcome of an IPO. This creates doubts to whether the discount applied on Greenvolt's fair values' is enough to compensate the weak investor demand likely observed during the economic scenario following the COVID-19 pandemic. Given this, an IPO may not be the best course of action to defend the interests of Greenvolt. However, it was completed in **Question 2.** a further analysis on how market timing may affect an IPO's success and how choices of capital raising can be influenced by the external environment surrounding a company.

Question 2.

In the renewable energy industry, investments in construction and innovation are essential, and cash inflows can be periodical, thus, companies have a high need to raise debt, especially during early stages of expansion. While the company could consider raising additional debt to support its expansion plan, its D/V ratio (67.9%) – much higher than the best peers (EDPR and Iberdrola's) D/V ratio of 42.5% - suggests that raising additional debt could jeopardize the company's financial health. Although borrowing costs were historically low due to the COVID-19 pandemic, with the European Central Bank (ECB) maintaining low interest rates to support borrowings for households and businesses, Greenvolt's already elevated debt levels indicates that pursuing additional leverage could instigate financial risks.

At the same time, Private Equity (PE) was not a favourable option for the company to pursue. According to Caselli e Negri (2021), the COVID-19 pandemic introduced significant uncertainties into PE "deal-making", both from an exit and entry point of view, particularly with the valuation of companies. The greatest challenge lied in the difficulty on formulating reliable assumptions, as the recent data (2020 and 2021) reflected the pandemic conditions and not a conventional business environment. Plus, the economic circumstances made it difficult for PEs to refer to peers' multiples as a basis for a possible valuation of a target company, as

this method is only valid in moments of stability. These challenges were compounded by the limited access to European markets, with Portugal being perceived as an inadequate country for PE investment (**Exhibit 15**). Therefore, most PE firms adopted a "wait-and-see" strategy, preferring to conserve financial resources while waiting for market conditions to stabilize (Caselli e Negri 2021). Moreover, PEs create value by steering businesses through a transition of rapid performance improvement, and then selling them at a higher value. Given this, in 2021, Greenvolt was not an attractive PE target as the company did not have the scale or the growth prospects to appeal to an acquirer, leaving the company with limited capital-raising options.

Among these challenges, the Market Timing Theory (Baker e Wurgler 2002) seems to support the idea that Greenvolt's IPO decision was driven by a combination of necessity and opportunity. This theory suggests that capital structure evolves based on current market conditions to maximize shareholder value and is evidenced by firms issuing equity when an overvaluation of its shares is perceived or repurchasing shares if managers believe the company is undervalued. In 2020, the COVID-19 pandemic significantly altered economies and investment strategies, with investors adjusting their portfolios from highly fluctuating assets to low-risk assets, such as government bonds. This poses that when market uncertainties go up, investors become risk-adverse and tend to invest in securities that can provide maximum stability. Additionally, the pandemic showcased the vulnerabilities of global economies and emphasized the need for a more sustainable financial system, increasing demand for securities connected to ESG factors in an effort by investors to "clean up" their portfolios (Cardillo, Bendinelli e Torluccio 2022), creating favourable conditions for renewable energy companies, like Greenvolt, to attract capital.

The Pecking Order Theory (POT) (Myers 1984) suggests that managers have a preference towards certain sources of funding: first, through internal financing, followed by debt, and lastly by equity. The rationale behind this is that company managers typically possess

more information on the company than external users, such as creditors or investors. Thus, to compensate for information asymmetry, external sources demand a higher return to account for the risk they are taking, making it cheaper for companies to finance themselves internally. However, while the conventional wisdom in most capital structure theories is that going public is simply a stage in the growth of a company, if we look at European markets, publicly traded companies are the exception rather than the rule, with several private companies exceeding the size of the average publicly traded company (Biais e Pagano 2002). But, given the unique market conditions posed at the time, with internal financing and debt being inadequate to meet capital needs, Greenvolt positioned itself on the way to a public listing.

Discussion: At the time, the surrounding environment and market sentiment, amid the COVID-19 pandemic, left Greenvolt with very limited options to raise capital to fund its plans for expansion (**Exhibit 16**). However, during this period, the market sentiment towards investments in green and renewable energy was high and healthy, giving Greenvolt an escape route from the difficult economic landscape to conduct a successful equity raise through an IPO. The urgent need to increase international visibility, and thus attract investment from across the globe, was imperative, leading the company to even change its name to Greenvolt from its previous name, *Bioelétrica da Foz*. Besides the benefits of raising funding for expansion, the IPO is also particularly interesting for Altri, as in the future, they might seek an exit opportunity to realize their investment returns. Therefore, we believe that Greenvolt should move forward with the IPO.

EXHIBITS LIST

EXHIBITS

Exhibit 1 - EBITDA Projections and Assumptions

	Historical Data				Forecast - Greenvolt's Guidance				Forecast											
EUR m	2018	2019	2020	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	2037e	2038e	2039e	2040e
Biomass																							
Revenues	50,5	64,3	86,9	104,0	130,3	131,9	135,1	137,6	140,1	142,6	145,2	147,8	150,5	153,2	156,0	158,8	161,7	164,6	167,6	170,7	173,8	176,9	180,1
EBITDA	20,1	22,7	33,0	29,2	39,1	39,6	40,5	41,3	42,0	42,8	43,6	44,3	45,1	46,0	46,8	47,6	48,5	49,4	50,3	51,2	52,1	53,1	54,0
EBITDA margin	*39,8%*	*35,3%*	*38,0%*	*28,1%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*	*30,0%*
Other Projects																							
Revenues				2,5	12,4	23,1	62,4	89,5	94,4	94,4	94,4	94,4	94,4	94,4	94,4	94,4	94,4	94,4	94,4	94,4	94,4	94,4	94,4
Organic EBITDA				1,2	6,2	11,5	31,2	44,7	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2
Organic EBITDA margin				*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*	*50,0%*
Capital Gains				14,2	27,9	12,7	153,2	66,0															
Other Projects EBITDA				15,4	34,1	24,3	184,4	110,7	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2
Total EBITDA	**20,1**	**22,7**	**33,0**	**44,6**	**73,2**	**63,9**	**224,9**	**152,0**	**89,2**	**90,0**	**90,8**	**91,6**	**92,4**	**93,2**	**94,0**	**94,9**	**95,7**	**96,6**	**97,5**	**98,4**	**99,3**	**100,3**	**101,3**

Assumptions	Reasoning
Biomass EBITDA	According to historical values, EBITDA margin has been around 37.0%. With the acquisition of the Tilbury plant, 41.6 MW will be added to the company's injection capacity, representing c.30% of total injection capacity. Therefore, we have added a boundary for possible EBITDA margin decreases and assumed an EBITDA margin of 30.0%
Other Projects : Organic EBITDA	Organic EBITDA is the result of the company's operations with its current installed capacity in both Utility-Scale and Decentralized Energy Generation Projects. We have hypothesized an EBITDA margin of 50.0% of organic revenues, according to the peer's average margin
Other Projects : Capital Gains	The gains from the sale of Solar PV and Wind projects are added to the EBITDA as a capital gain. The company's pipeline guidance ends in 2025e, therefore, Capital Gains have no significance after that year
otal EBITDA	Greenvolt's total EBITDA is the sum of (Biomass EBITDA) + (Other Projects : Organic EBITDA) + (Other Projects : Capital Gains)

Exhibit 2– D&A, CAPEX and NWC Projections and Assumptions

EUR m	Historical Data				Forecast - Greenvolt's Guidance				Forecast											
	2018	2019	2020	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	2037e	2038e	2039e	2040e
Depreciation & Amortization																							
Biomass	7,8	10,6	12,1	27,5	52,9	43,9	31,4	24,6	21,6	19,4	17,4	15,6	14,1	12,7	11,4	10,3	9,4	8,5	7,8	7,1	6,5	6,0	5,5
Other Projects				0,8	5,0	7,6	14,2	16,0	14,6	12,8	11,3	10,0	8,8	7,8	6,9	6,2	5,5	4,9	4,4	3,9	3,5	3,2	2,9
Total D&A	**7,8**	**10,6**	**12,1**	**28,4**	**57,9**	**51,6**	**45,6**	**40,6**	**36,1**	**32,2**	**28,7**	**25,6**	**22,9**	**20,5**	**18,4**	**16,5**	**14,9**	**13,4**	**12,1**	**11,0**	**10,0**	**9,1**	**8,4**

EUR m	Forecast - Greenvolt's Guidance				Forecast															
	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	2037e	2038e	2039e	2040e	
CAPEX																				
Biomass																				
Total Biomass CAPEX	**7,9**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**	**0,4**
New MW additions	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EUR 1,500,000 Acquisition CAPEX per MW	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Biomass Construction CAPEX	7,5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Power Generation Capacity (MW)	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
EUR 2,500 Organic CAPEX	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
Other Projects																				
Total Maintenance CAPEX	**0,5**	**0,8**	**2,0**	**3,1**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**	**2,3**
Solar PV																				
New MW additions	286	313	1403	569	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EUR 22,500 Acquisition CAPEX per MW	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225	0,0225
Solar PV Construction CAPEX	6,4	7,1	31,6	12,8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(average MWs per year) Power Generation Capacity	160	234	585	915	638	638	638	638	638	638	638	638	638	638	638	638	638	638	638	638
EUR 2,500 Maintenance CAPEX	0,4	0,6	1,5	2,3	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6
Wind																				
New MW additions	94	104	464	188	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EUR 33,750 Acquisition CAPEX per MW	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338	0,0338
Wind Construction CAPEX	3,2	3,5	15,7	6,3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(average MWs per year) Power Generation Capacity	54	85	208	342	271	271	271	271	271	271	271	271	271	271	271	271	271	271	271	271
EUR 2,500 Maintenance CAPEX	0,1	0,2	0,5	0,9	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7

EUR m	1H18a	2H18a	1H19a	2H19a	1H20a	2H20a	1H21a	2H21e	1H22e	2H22e	1H23e	2H23e	1H24e	2H24e	1H25e	2H25e	1H26e	2H26e	1H27e	2H27e	1H28e	2H28e	1H29e	2H29e	1H30e	2H30
Net Sales	25,3	25,3	32,1	32,1	46,4	43,5	41,9	64,6	69,9	72,8	75,6	79,4	92,3	105,2	110,8	116,2	117,0	117,5	118,3	118,7	119,6	120,0	120,9	121,4	122,2	122,7
Receivables	0	0	0	0	0	0,01958	11,35724	17,7113581	19,1570351	19,9486731	20,7106168	21,7468724	25,2832541	28,8142911	30,3624011	31,8407317	32,0635786	32,1838223	32,4082706	32,5332669	32,7593446	32,8891853	33,1169211	33,2517	33,48112	33,62094
Inventories	0,7503825	0,750383	1,520831	1,5208305	0,000554	0,000554	0,000424	0,00065492	0,00070837	0,00073764	0,00076582	0,00080414	0,0009349	0,00106547	0,00112271	0,00117738	0,00118562	0,00119007	0,00119837	0,00120299	0,00121135	0,00121615	0,00122457	0,00123	0,001238	0,001243
Payables	3,457129	3,457129	5,965783	5,965783	4,268926	4,268926	20,149908	30,9948766	33,5248115	34,910178	36,2435794	38,0570267	44,2456947	50,4250093	53,1342019	55,7212805	56,1112625	56,3216891	56,7144735	56,933217	57,328853	57,5560743	57,9546119	58,19047	58,59196	58,83664
Working Capital	-2,7067465	-2,70675	-4,44495	-4,4449525	-4,268372	-4,248792	-8,792244	-13,2828636	-14,367068	-14,9607672	-15,5321968	-16,3093502	-18,9615057	-21,6096528	-22,7706781	-23,8793714	-24,0464983	-24,1366767	-24,3050046	-24,3987472	-24,5682971	-24,6656728	-24,8364662	-24,9375	-25,1096	-25,2145
Change in Working Capital				**-1,74**		**0,20**		**-9,03**		**-1,68**		**-1,35**		**-5,30**		**-2,27**		**-0,26**		**-0,26**		**-0,27**		**-0,27**		**-0,28**

Cash Cycle

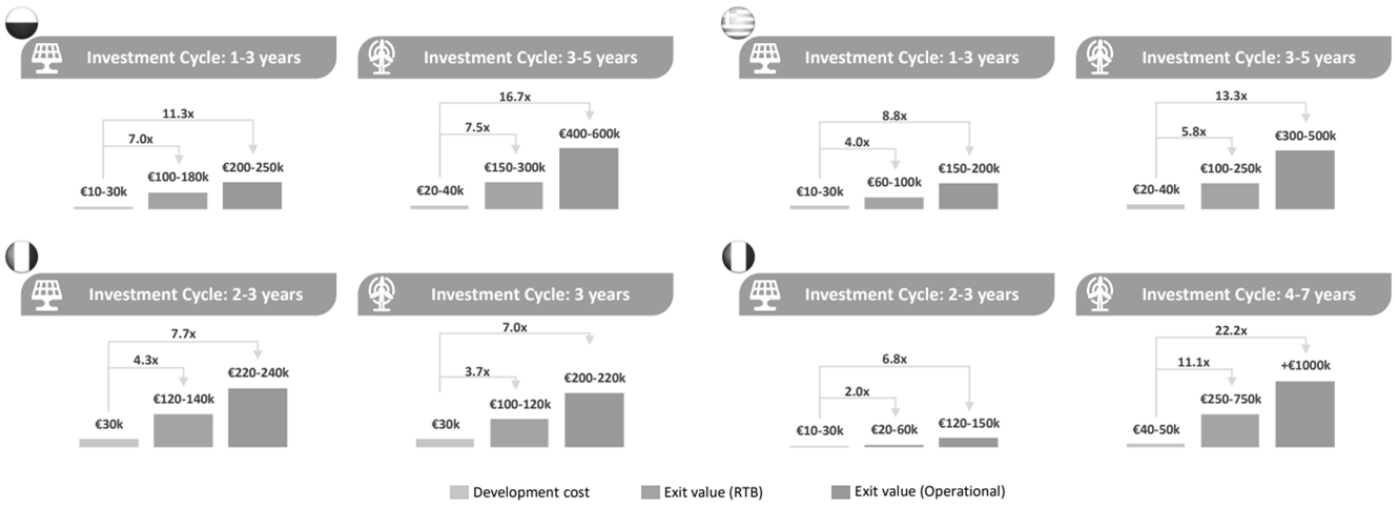
# of days																										
Receivables	0	0	0	0	0	0,16437253	99,0467516	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Inventories	10,8391497	10,83915	17,27051	17,27050906	0,004358073	0,00465079	0,00369771	0,00369771	0,00369771	0,00369771	0,00369771	0,00369771	0,00369771	0,00369771	0,00369771	0,00369771	0,00369771	0,00369767	0,00369771	0,00369771	0,00369771	0,00369771	0,00369771	0,003698	0,003698	0,003698
Payables	49,9376502	49,93765	67,74727	67,74726661	33,58175544	35,8372924	175,727812	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175

1H31	2H31	1H32	2H32	1H33	2H33	1H34	2H34	1H35	2H35	1H36	2H36	1H37	2H37	1H38	2H38	1H39	2H39	1H40	2H40
123,6	124,1	124,9	125,5	126,3	126,9	127,8	128,4	129,2	129,8	130,7	131,3	132,2	132,9	133,8	134,4	135,3	136,0	136,9	137,6
33,85208	33,99702	34,22991	34,38008	34,61474	34,77025	35,00672	35,16766	35,40598	35,57245	35,81264	35,98477	36,22686	36,40475	36,64878	36,83253	37,07854	37,26827	37,51629	37,71212
0,001252	0,001257	0,001266	0,001271	0,00128	0,001286	0,001294	0,0013	0,001309	0,001315	0,001324	0,001331	0,00134	0,001346	0,001355	0,001362	0,001371	0,001378	0,001387	0,001394
59,24113	59,49478	59,90233	60,16514	60,5758	60,84793	61,26176	61,54341	61,96046	62,2518	62,67212	62,97335	63,39701	63,7083	64,13536	64,45693	64,88744	65,21947	65,6535	65,9962
-25,3878	-25,4965	-25,6712	-25,7838	-25,9598	-26,0764	-26,2537	-26,3744	-26,5532	-26,678	-26,8582	-26,9872	-27,1688	-27,3022	-27,4852	-27,623	-27,8075	-27,9498	-28,1358	-28,2827
	-0,28		**-0,29**		**-0,29**		**-0,30**		**-0,30**		**-0,31**		**-0,31**		**-0,32**		**-0,33**		**-0,33**

100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698	0,003698
175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175

Assumptions	Reasoning
Depreciation & Amortization	D&A was computed as a percentage of PPE and RoU assets according to historical values (6.1%), since these reflect the projected investments in new MWs planned every year. D&A were allocated per segment in proportion to their respective revenues
CAPEX	CAPEX can be divided between Maintenance CAPEX and Construction CAPEX. For Valuation purposes, Construction CAPEX is already accounted for in Capital Gains, therefore, only organic capital expenditures will be included in CAPEX
Maintenance CAPEX	Maintenance CAPEX represents the organic expenditures that are necessary to continue the normal course of business, and is calculated according to the number of injection MWs available at a certain period of time.
Construction CAPEX	Construction CAPEX represents the necessary expenditures to build power plants in the various business segments. This value will be deducted from the Prospects to obtain the Capital Gains from the sale of projects (included in EBITDA)
Net Working Capital	Calculated as a function of revenues based on the company's historical cash cycle. Receivables were assummed to be collected within 100 days, inventories to be used within c. 0.004 days, and payables to be settled in 175 days.

Exhibit 3– Average Project Development Cost and Exit Value per MW



Source: Greenvolt *(2021)*

Exhibit 4 – Yearly market returns and market risk premiums in Portugal

Date	Dividend Yield	Growth Rate	Dividend Pay Ratio	Market Return	Risk-Free Rate	Premium
06/30/2021	2.84%	9.94%	52.39%	9.27%	0.39%	8.88%
12/31/2020	2.49%	7.60%	48.71%	7.72%	0.03%	7.69%
12/31/2019	3.88%	6.45%	55.24%	8.44%	0.44%	7.99%
12/31/2018	4.43%	8.87%	55.43%	10.41%	1.72%	8.69%
12/31/2017	3.74%	12.36%	60.80%	11.27%	1.94%	9.33%
12/31/2016	3.59%	12.50%	59.01%	11.41%	3.76%	7.65%
12/31/2015	3.21%	10.99%	57.47%	10.10%	2.52%	7.58%
12/31/2014	3.83%	15.01%	66.04%	13.11%	2.69%	10.42%
12/31/2013	3.78%	16.22%	55.49%	13.50%	6.13%	7.37%
12/31/2012	5.13%	21.23%	51.82%	16.89%	7.01%	9.88%
12/31/2011	3.92%	15.26%	53.97%	15.00%	13.36%	1.64%

Source: Bloomberg

Exhibit 5– Calculation description for country risk premium

Calculations

All calculations are performed based on the members of a given index with an Internal Rate of Return (VM004) available.

Country Risk Premium (VM109): Market Return (VM108) minus Risk Free Rate (VM103).

Market Return (VM108): Internal rate of return (VM004) weighted by the market cap of each index member. This is a forward-looking (rather than historical) estimate of market return. The internal rate of return comes from the *Dividend Discount Model* (DDM) function, and is based on estimates from the *Current Consensus* (EEO) function for the first few years. After that, CRP uses a proprietary model for the growth years.

Risk Free Rate (VM103): Yield on a local generic ten-year treasury security.

The three measures below do not factor into the estimation of market return and are calculated only with the index members with Internal Rate of Return (VM004) available:

Dividend Yield: Dividend indicated yield (DV013) weighted by the market cap of each index member.

Growth Rate: Long-term growth rate weighted by the market cap of each index member. EPS growth comes from the *Earnings Estimates Overview* (EEO) function. If a growth rate estimate is not available, it will use the ratio of the two furthest out estimated EPS.

Payout Ratio: Dividend payout ratio (RR049) weighted by income before interest (RR812), dividends (RR814), and extraordinary items (RR809) for each index member.

Source: Bloomberg

Exhibit 6– Spread on Cost of Debt Reasoning

	2H19	1H20	2H20	1H21
EBIT	6.04	9.62	17.59	3.97
Financial Expenses	-0.94	-0.87	-0.92	-0.78
Interest Coverage Ratio	6.45	11.02	19.15	5.09

For smaller and riskier firms

If interest coverage ratio is			
greater than	≤ to	Rating is	Spread is
-100000	0.499999	D2/D	20.00%
0.5	0.799999	C2/C	17.00%
0.8	1.249999	Ca2/CC	11.78%
1.25	1.499999	Caa/CCC	8.51%
1.5	1.999999	B3/B-	5.24%
2	2.499999	B2/B	3.61%
2.5	2.999999	B1/B+	3.14%
3	3.499999	Ba2/BB	2.21%
3.5	3.9999999	Ba1/BB+	1.74%
4	4.499999	Baa2/BBB	1.47%
4.5	5.999999	A3/A-	1.21%
6	7.499999	A2/A	1.07%
7.5	9.499999	A1/A+	0.92%
9.5	12.499999	Aa2/AA	0.70%
12.5	100000	Aaa/AAA	0.59%

Source: Damodaran (2021)

Exhibit 7– WACC Reasoning and sensitivity analysis

Greenvolt's Debt Rating	A-	*according to Damodaran (2021) interest coverage ratio*
Debt Spread	1,2%	*Source: Damodaran*
Cost of Debt (Rd)	1,6%	
Adjusted Rd	1,2%	

Risk Free Rate	0,39%	*Obrigações do Tesouro - Portugal (30/06/2021) Source: Bloomberg*
Market Risk Premium	8,88%	*PSI-20 Source: Bloomberg*
Beta	1,22	*EDPR versus PSI-20 Source: Bloomberg (2020-2021)*
Re	11,2%	
Rd	1,6%	
Rd (net of taxes)	1,2%	
Tax Rate	27%	*historical average*
long term D/V	40,0%	*according to EDPR and Iberdrola debt to value ratio*
WACC	7,2%	

Debt to Value ratio

EURm	2H19	2H20	1H21
Total Net Debt	90.22	82.04	318.70
Equity	39.79	67.31	150.79
D/V Ratio	69.39%	54.93%	67.88%
Median	**67.88%**		

Sensitivity analysis

WACC		Rd						
	7,20%	0,58%	0,78%	0,98%	1,18%	1,38%	1,58%	1,78%
Re	9,72%	6,06%	6,14%	6,22%	6,30%	6,38%	6,46%	6,54%
	10,22%	6,36%	6,44%	6,52%	6,60%	6,68%	6,76%	6,84%
	10,72%	6,66%	6,74%	6,82%	6,90%	6,98%	7,06%	7,14%
	11,22%	6,96%	7,04%	7,12%	**7,20%**	7,28%	7,36%	7,44%
	11,72%	7,26%	7,34%	7,42%	7,50%	7,58%	7,66%	7,74%
	12,22%	7,56%	7,64%	7,72%	7,80%	7,88%	7,96%	8,04%
	12,72%	7,86%	7,94%	8,02%	8,10%	8,18%	8,26%	8,34%

Exhibit 8 - Consolidated DCF Approach – method (i)

	Historical Data				Forecast - Greenvolt's Guidance			Forecast												
EUR m	2018	2019	2020	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	2037e	2038e	2039e	2040e
Revenues	**50,5**	**64,3**	**89,9**	**106,5**	**142,8**	**155,9**	**197,5**	**227,0**	**234,4**	**237,0**	**239,5**	**242,2**	**244,8**	**247,6**	**250,3**	**253,2**	**256,0**	**259,0**	**262,0**	**265,0**	**268,1**	**271,3**	**274,5**
EBITDA	**20,1**	**22,7**	**33,0**	**44,6**	**73,2**	**64,1**	**224,9**	**152,0**	**89,2**	**90,0**	**90,7**	**91,5**	**92,3**	**93,2**	**94,0**	**94,8**	**95,7**	**96,6**	**97,5**	**98,4**	**99,3**	**100,3**	**101,2**
Biomass				29,2	39,1	39,8	40,5	41,2	42,0	42,8	43,5	44,3	45,1	45,9	46,8	47,6	48,5	49,4	50,3	51,2	52,1	53,0	54,0
Other Projects				15,4	34,1	24,3	184,4	110,7	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2	47,2
EBITDA margin				*41,91%*	*51,25%*	*41,14%*	*113,90%*	*66,97%*	*38,06%*	*37,97%*	*37,89%*	*37,80%*	*37,71%*	*37,63%*	*37,54%*	*37,46%*	*37,38%*	*37,29%*	*37,21%*	*37,13%*	*37,04%*	*36,96%*	*36,88%*
Depreciations & Amortizations	-7,8	-10,6	-12,1	-28,4	-57,9	-51,6	-45,6	-40,6	-36,1	-32,2	-28,7	-25,6	-22,9	-20,5	-18,4	-16,5	-14,9	-13,4	-12,1	-11,0	-10,0	-9,1	-8,4
EBIT	**12,3**	**12,1**	**20,9**	**16,3**	**15,3**	**12,6**	**179,3**	**111,4**	**53,1**	**57,8**	**62,1**	**65,9**	**69,5**	**72,7**	**75,6**	**78,3**	**80,8**	**83,2**	**85,3**	**87,4**	**89,3**	**91,1**	**92,9**
Tax rate	16,3%	25,6%	25,2%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
NOPLAT	**10,3**	**9,0**	**15,6**	**11,9**	**11,2**	**9,2**	**130,9**	**81,3**	**38,7**	**42,2**	**45,3**	**48,1**	**50,7**	**53,0**	**55,2**	**57,2**	**59,0**	**60,7**	**62,3**	**63,8**	**65,2**	**66,5**	**67,8**
+ Depreciations & Amortizations	7,8	10,6	12,1	28,4	57,9	51,6	45,6	40,6	36,1	32,2	28,7	25,6	22,9	20,5	18,4	16,5	14,9	13,4	12,1	11,0	10,0	9,1	8,4
- CAPEX	**-41,4**	**-30,0**	**-1,6**	**-300,0**	**-8,4**	**-1,2**	**-2,3**	**-3,5**	**-3,0**	**-2,6**	**-2,6**	**-2,6**	**-2,6**	**-2,6**	**-2,6**	**-2,6**	**-2,6**	**-2,6**	**-2,6**	**-2,6**	**-2,6**	**-2,6**	**-2,6**
- changes in NWC		-1,7	0,2	-9,0	-1,7	-1,4	-5,2	-2,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3
FCF	**-23,3**	**-12,2**	**26,4**	**-268,8**	**58,9**	**58,2**	**168,9**	**116,1**	**71,6**	**71,5**	**71,1**	**70,8**	**70,7**	**70,6**	**70,6**	**70,8**	**70,9**	**71,2**	**71,5**	**71,8**	**72,3**	**72,7**	**73,2**
Discount Factor					1	0,933	0,870	0,812	0,757	0,706	0,639	0,614	0,573	0,535	0,499	0,465	0,434	0,405	0,378	0,352	0,329	0,306	0,286
Discounted FCF					58,9	54,3	147,0	94,3	54,2	50,5	46,8	43,5	40,5	37,8	35,2	32,9	30,8	28,8	27,0	25,3	23,7	22,3	20,9

WACC	7,20%
Terminal Growth Rate	2,00%
Sum of PV(FCF)	874,8
Terminal Value PV	382,5
Enterprise Value	1257
Net Debt	404
BV of Minorities	49
Equity Value	805
# Shares	121
Fair Value (€)	**6,6**
Issue Price (EUR 4,25)	4,25
Upside	56,0%
IPO discount	20,0%
IPO share price (€)	**5,3**

Exhibit 9 - Sensitivity Analysis on Greenvolt's fair value - method (i)

	Terminal Growth Rate							
WACC	6,63	1,3%	1,5%	1,8%	2,0%	2,3%	2,5%	2,8%
	5,7%	9,0	9,3	9,6	10,0	10,4	10,9	11,5
	6,2%	7,9	8,1	8,3	8,6	8,9	9,3	9,7
	6,7%	7,0	7,1	7,3	7,5	7,7	8,0	8,3
	7,2%	6,2	6,3	6,5	6,6	6,8	7,0	7,2
	7,7%	5,6	5,7	5,8	5,9	6,0	6,2	6,3
	8,2%	5,0	5,1	5,2	5,3	5,4	5,5	5,6
	8,7%	4,6	4,6	4,7	4,8	4,8	4,9	5,0

	Terminal EBITDA margin							
WACC	6,63	33,9%	34,9%	35,9%	36,9%	37,9%	38,9%	39,9%
	5,7%	9,5	9,7	9,8	10,0	10,2	10,3	10,5
	6,2%	8,2	8,3	8,5	8,6	8,7	8,9	9,0
	6,7%	7,2	7,3	7,4	7,5	7,6	7,7	7,8
	7,2%	6,4	6,5	6,5	6,6	6,7	6,8	6,9
	7,7%	5,7	5,7	5,8	5,9	6,0	6,1	6,1
	8,2%	5,1	5,2	5,2	5,3	5,3	5,4	5,5
	8,7%	4,6	4,6	4,7	4,8	4,8	4,9	4,9

Biomass DCF

	Historical Data				Forecast - Greenvolt's Guidance				Forecast														
EUR m	2018	2019	2020	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	2037e	2038e	2039e	2040e
Revenues	**50,5**	**64,3**	**86,9**	**104,0**	**130,3**	**131,9**	**135,1**	**137,6**	**140,1**	**142,6**	**145,2**	**147,8**	**150,5**	**153,2**	**156,0**	**158,8**	**161,7**	**164,6**	**167,6**	**170,7**	**173,8**	**176,9**	**180,1**
EBITDA	**20,1**	**22,7**	**33,0**	**29,2**	**39,1**	**39,6**	**40,5**	**41,3**	**42,0**	**42,8**	**43,6**	**44,3**	**45,1**	**46,0**	**46,8**	**47,6**	**48,5**	**49,4**	**50,3**	**51,2**	**52,1**	**53,1**	**54,0**
Growth Rate %		*13,0%*	*45,5%*	*-11,5%*	*33,8%*	*1,2%*	*2,4%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*	*1,8%*
EBITDA margin	*39,77%*	*35,31%*	*38,02%*	*28,10%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*	*30,00%*
Depreciations & Amortizations	-7,8	-10,6	-12,1	-27,5	-52,9	-43,9	-31,4	-24,6	-21,6	-19,4	-17,4	-15,6	-14,1	-12,7	-11,4	-10,3	-9,4	-8,5	-7,8	-7,1	-6,5	-6,0	-5,5
EBIT	**12,3**	**12,1**	**20,9**	**1,7**	**-13,8**	**-4,4**	**9,2**	**16,7**	**20,4**	**23,4**	**26,2**	**28,7**	**31,1**	**33,3**	**35,4**	**37,3**	**39,1**	**40,9**	**42,5**	**44,1**	**45,6**	**47,1**	**48,6**
Tax rate	16,3%	25,6%	25,2%	27%	0%	0%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
NOPLAT	**10,3**	**9,0**	**15,6**	**1,2**	**-13,8**	**-4,4**	**6,7**	**12,2**	**14,9**	**17,1**	**19,1**	**21,0**	**22,7**	**24,3**	**25,8**	**27,2**	**28,6**	**29,8**	**31,0**	**32,2**	**33,3**	**34,4**	**35,4**
+ Depreciations & Amortizations	7,8	10,6	12,1	27,5	52,9	43,9	31,4	24,6	21,6	19,4	17,4	15,6	14,1	12,7	11,4	10,3	9,4	8,5	7,8	7,1	6,5	6,0	5,5
- CAPEX	**-41,4**	**-30,0**	**-1,6**	**-300,0**	-7,86	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36	-0,36
- changes in NWC				0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
FCF	**-23,3**	**-10,4**	**26,2**	**-271,2**	**31,2**	**39,2**	**37,7**	**36,4**	**36,1**	**36,1**	**36,1**	**36,2**	**36,4**	**36,6**	**36,9**	**37,2**	**37,6**	**38,0**	**38,4**	**38,9**	**39,4**	**40,0**	**40,6**
Discount Factor					1	0,933	0,870	0,812	0,757	0,706	0,659	0,614	0,573	0,535	0,499	0,465	0,434	0,405	0,378	0,352	0,329	0,306	0,286
Discounted FCF					31,2	36,6	32,8	29,6	27,4	25,5	23,8	22,3	20,9	19,6	18,4	17,3	16,3	15,4	14,5	13,7	13,0	12,3	11,6

WACC	7,20%
Terminal Growth Rate	2,00%

Sum of PV(FCF)	401,9
Terminal Value PV	212,1
Enterprise Value	614

"Other Projects" DCF

EUR millions	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Revenues				**2,5**	**12,4**	**23,1**	**62,4**	**89,5**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**	**94,4**
EBITDA				**15,4**	**34,1**	**24,3**	**184,4**	**110,7**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**	**47,2**
Growth Rate %					*121,2%*	*-28,7%*	*659,4%*	*-39,9%*	*-57,4%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*
Depreciations & Amortizations				-0,8	-5,0	-7,6	-14,2	-16,0	-14,6	-12,8	-11,3	-10,0	-8,8	-7,8	-6,9	-6,2	-5,5	-4,9	-4,4	-3,9	-3,5	-3,2	-2,9
EBIT				**14,6**	**29,1**	**16,6**	**170,2**	**94,8**	**32,7**	**34,4**	**35,9**	**37,2**	**38,4**	**39,4**	**40,3**	**41,1**	**41,7**	**42,3**	**42,8**	**43,3**	**43,7**	**44,0**	**44,3**
Tax rate				27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
NOPLAT				**10,6**	**21,2**	**12,1**	**124,2**	**69,2**	**23,8**	**25,1**	**26,2**	**27,2**	**28,0**	**28,8**	**29,4**	**30,0**	**30,5**	**30,9**	**31,3**	**31,6**	**31,9**	**32,1**	**32,4**
+ Depreciations & Amortizations				0,8	5,0	7,6	14,2	16,0	14,6	12,8	11,3	10,0	8,8	7,8	6,9	6,2	5,5	4,9	4,4	3,9	3,5	3,2	2,9
- CAPEX				**-0,5**	**-0,8**	**-2,0**	**-3,1**	**-2,6**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**	**-2,3**
- changes in NWC				0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
FCF	**0,0**	**0,0**	**0,0**	**11,5**	**25,7**	**19,0**	**136,5**	**82,0**	**35,8**	**35,7**	**35,3**	**34,9**	**34,6**	**34,3**	**34,1**	**33,9**	**33,7**	**33,5**	**33,4**	**33,3**	**33,1**	**33,1**	**33,0**
Discount Factor					1	0,933	0,870	0,812	0,757	0,706	0,659	0,614	0,573	0,535	0,499	0,465	0,434	0,405	0,378	0,352	0,329	0,306	0,286
Discounted FCF					25,7	17,7	118,7	66,6	27,1	25,2	23,2	21,4	19,8	18,3	17,0	15,8	14,6	13,6	12,6	11,7	10,9	10,1	9,4

WACC	7,20%
Terminal Growth Rate	2,00%

Sum of PV(FCF)	479,5
Terminal Value PV	172,3
Enterprise Value	652

Greenvolt Sum-of-the-Parts

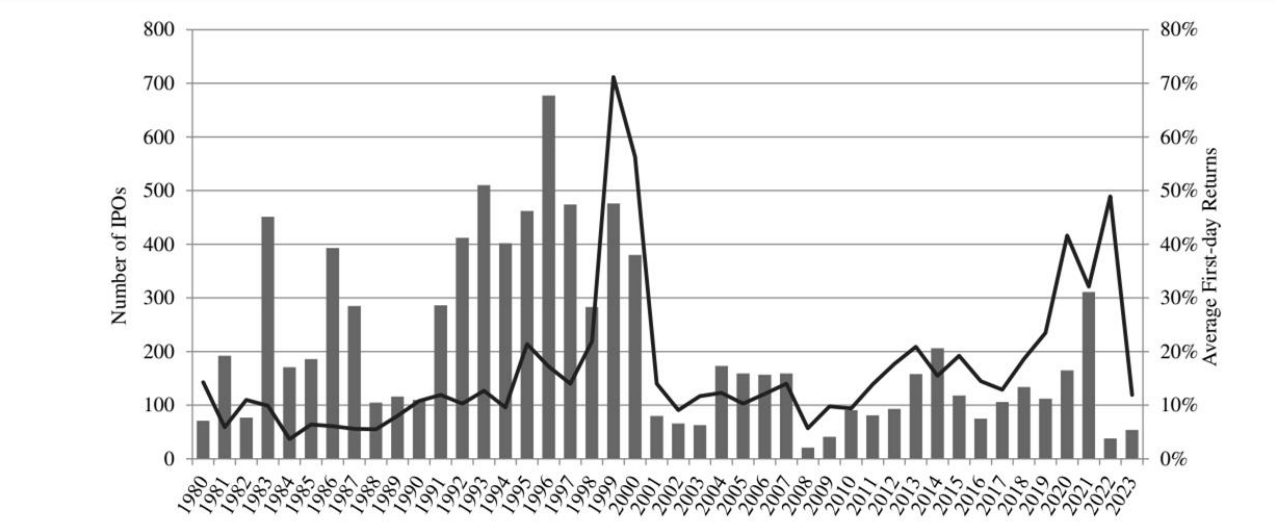
	EUR m	EV	Stake	Stake Value	Weight	EV/EBITDA 2022e	EV/EBITDA 2023e	Method
	Biomass	614	100%	614	48,5%	15,7	15,4	DCF @ 7.2%
	Other Projects	652	100%	652	51,5%	19,1	26,8	DCF @ 7.2%
	Greenvolt's EV			**1266**				
	Net Debt adjusted			404				
	Minorities			49				
	Total Equity			**813**				
millions	Outstanding Shares			121				
EUR	Greenvolt's value per share			6,70				
%	IPO's discount			20%				
EUR	**Greenvolt's IPO value per share**			**5,36**				

Exhibit 11 – Sensitivity Analysis on Greenvolt's fair value - method (ii)

	Terminal Biomass Growth Rate							
WACC	6,7	1,3%	1,5%	1,8%	2,0%	2,3%	2,5%	2,8%
	5,7%	9,1	9,4	9,7	10,1	10,5	11,0	11,6
	6,2%	8,0	8,2	8,4	8,7	9,0	9,4	9,8
	6,7%	7,0	7,2	7,4	7,6	7,8	8,1	8,4
	7,2%	6,3	6,4	6,6	6,7	6,9	7,1	7,3
	7,7%	5,6	5,7	5,9	6,0	6,1	6,2	6,4
	8,2%	5,1	5,2	5,3	5,3	5,4	5,6	5,7
	8,7%	4,6	4,7	4,7	4,8	4,9	5,0	5,1

	Terminal Biomass EBITDA margin							
WACC	6,7	24,0%	26,0%	28,0%	30,0%	32,0%	34,0%	36,0%
	5,7%	9,4	9,6	9,9	10,1	10,3	10,5	10,7
	6,2%	8,2	8,3	8,5	8,7	8,9	9,0	9,2
	6,7%	7,2	7,3	7,5	7,6	7,7	7,9	8,0
	7,2%	6,3	6,5	6,6	6,7	6,8	6,9	7,1
	7,7%	5,7	5,8	5,9	6,0	6,1	6,2	6,3
	8,2%	5,1	5,2	5,3	5,3	5,4	5,5	5,6
	8,7%	4,6	4,7	4,7	4,8	4,9	5,0	5,0

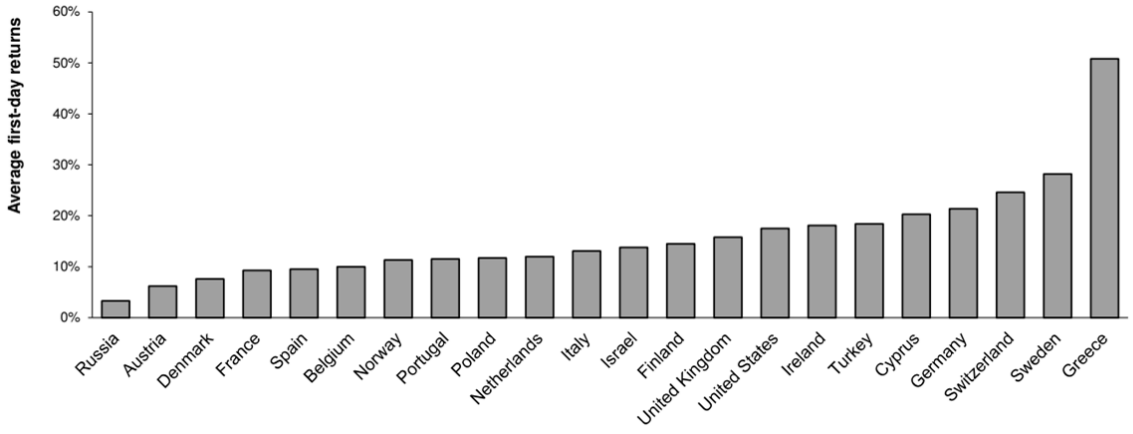
Exhibit 12 – Number of IPOs and Average first-day returns per year in the U.S.



The number of IPOs (bars) and equally weighted average first-day return, by year, for 1980-2023 for operating companies going public with traditional IPOs on major U.S. exchanges (ADRs, penny stocks, etc. are excluded. See Table 1 for details.)

Source: Jay R. Ritter – IPO Data (2024)

Exhibit 13 – Average first-day returns on (mostly) European IPOs



Source: Jay R. Ritter – IPO Data (2024)

Exhibit 14 – Relative Valuation and sensitivity analysis

Relative Valuation

Average EV/EBITDA	17,1
Enterprise Value	1250
Net Debt	404
BV of Minorities	49
Equity Value	797
# Shares	121
Fair Value (€)	**6,6**
Issue Price (EUR 4,25)	4,25
Upside	54,5%
IPO discount	20,0%
IPO share price (€)	**5,3**

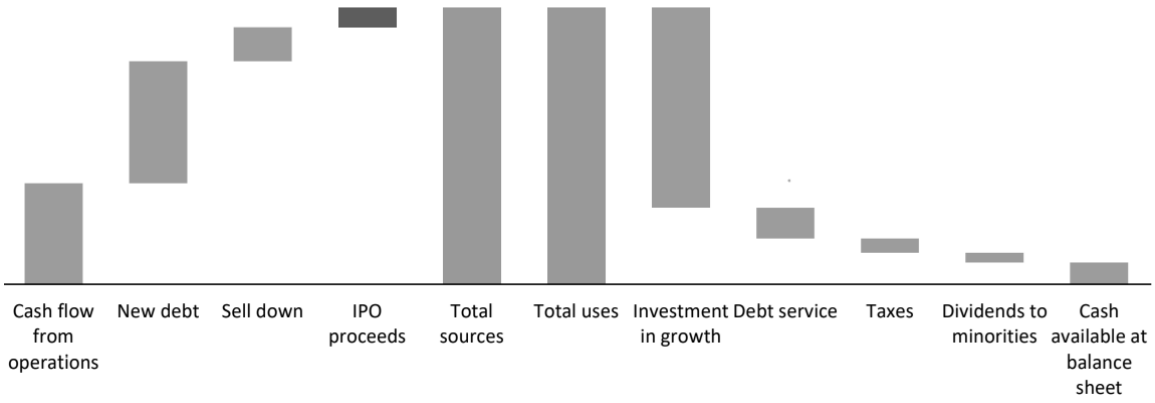
Sensitivity Analysis

EV / EBITDA	Enterprise Value	Share Price
14,1	1 030	4,76
15,1	1 103	5,36
16,1	1 176	5,96
17,1	1 250	6,57
18,1	1 323	7,17
19,1	1 396	7,77
20,1	1 469	8,37

Exhibit 15 – Promising European countries for the Private Equity market

Source: EIF PE MM Survey (2021)

Exhibit 16 – Greenvolt's sources and uses of funds



Source: Greenvolt *(2021)*

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