



# CFA Institute

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## CFA Institute Research Challenge

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# ERG S.p.a.

Italy | Independent Power Producer | Renewable energy



## BUY

### ERG

**Price** €26.02

**Target Price** €32.93

**Upside** +26.56%

**Dividend Yield** 2.90%

**Primary exchange** Italian  
Stock Exchange

**Tickers** ERG.MI (Refinitiv),  
ERG-IT (BBG, Factset)

### MARKET DATA

#### Main shareholders

San Quirico s.p.a. 55.63%

Polcevera s.r.l. 6.91%

Azimut Capital 1.97%

**Market cap** €3,873 bn

**Free float** 54.87 mn

**Shares outstanding** 148.87 mn

#### Stock Data

**52 weeks H/L** €13.17- €27.54

**Avg. daily volume (3m)** 238,94 k

To the investors and to the CFA Institute.

We initiate our coverage on ERG (ERG.MI) with a **BUY recommendation based on a 12-month target price of €32.93, implying an upside potential of 26.56% considering its price as of the 9th February 2021 closing price of €26.02.**

ERG is an Italian Independent Power Producer and an operator within the European renewable energy market.

In our view, ERG is a stable and transformative company, with an experience of over 80 years in the energy sector. **Stable**, because of the resilience the company displays, given its profound experience in overcoming economic downturns. **Transformative**, given its managerial foresight, which promptly shifted the company's business model to the renewable sector from its leading position in the oil industry, leading us to believe, both from a qualitative and quantitative analysis, that the company has potential to continue growing.

Due to a potential transformation of ERG's upcoming business plan, we approached the prospective analysis dividing it into two parts. The first, a DCF model which considers the scenario where ERG continues to carry out all four of its operations within its portfolio. Whereas, the second, considers this possibility relating to a change in ERG's business model. We pursued this hypothetical scenario, after reading in an article from the Sole 24 (21-01-21), rumours that the hydroelectric and thermoelectric businesses could be sold to favour a steeper growth in the wind and solar sectors.

To offer the investors a report which best captures ERG's performance, different scenarios were carried out also considering macroeconomic and market changes, mainly considering interest rates, which have a profound impact on a company like ERG. The valuation model that was constructed to evaluate ERG attempts to follow what Benjamin Graham once defined as intrinsic value: "That value which is determined by the facts". The facts this report has gathered, begin by looking at the company's operational history, its individual assets, its strategies, the market it operates in and finally, its management. This analysis attempts to estimate ERG's value, with a DCF model supported by a MonteCarlo Analysis, a Multiple analysis, which we will discuss throughout the report.

### 2Y price performance



## INVESTMENT SUMMARY

We initiate our coverage on ERC (ERG.MI) with a BUY recommendation and year-end target price of €32.93 implying an upside of 26,56% on the 9th February 2021 closing price (€26.02).

### Company presentation

With a Market Cap of €3.873bn and almost €1bn in Revenues (2020E), ERC is an Italian-based independent power producer with operations in seven different European countries, and a strong focus on renewable energy. ERC operates in three sub-segments of this market: hydro, solar and wind. It also displays a non-renewable programmable resource power production which is represented by its thermoelectric operations.

### Recent Developments

ERG's current business plan (2018-2022) is getting close to completion and the company will soon present its 2022-2025 new business plan this May. In 2020, ERC faced a slight decrease in Revenues mainly due to the negative impact of Covid-19 on energy prices and demand. Despite this, ERC reported moderately positive results: EBITDA Margin is slightly higher than the average of the sector (EBITDAm 48,8% in 2020E), while EBIT Margin shows a slight decrease (EBITm 17% in 2020E). No further information has been put forth towards the 2022-2025 plan, except for an article written by the Sole 24. The article describes that ERC could be planning to sell two of its portfolio operations, focusing entirely on its Solar and Wind segments. Our analysis also takes this scenario into consideration, assuming a sale value of these assets close to €1 billion.

### Earnings forecast

In the DCF model, we assume ERC's total revenues to grow at +3,7% CAGR 2020-2030, considering i) an increase in energy production in wind (+7,5% CAGR 2020-2030) and solar (+5,1% CAGR 2020-2030); ii) a slight increase in energy production for hydro (+2,3% CAGR 2020-2029) and for thermo (+1,3% CAGR 2020-2030), while we expect an increase for the energy price due to a progressive European price convergence. In the final year (2030), we expect a drop in Revenues of 4,14% due to the termination of most of the incentives and the potential exit from the hydro segment, due to the termination of the concession. The forecasted EBITDA has an increasing trend displaying a 7,08% CAGR (2020-2027), whereas in 2027 due to progressively diminishing incentives, the EBITDA decreases and will do so also for the final year of the forecasting period 2030.

### Valuation summary

The year-end target price of €32.93 was the result of a DCF valuation, utilizing a WACC of 4,25% and a terminal growth rate equal to 0,00%. This model was considered to be the most efficient way to capture ERC's future performance, taking into consideration not only the traditional revenue drivers and expenses, but also incentives, which have a big impact on the performance of companies within the renewable energy market and which will be subject to changes during the forecast horizon of the analysis. The multiple analysis shows that currently the company trades at discount in respect of comparable firms EV/EBITDA.

### Investment risks

Six different risks were deemed relevant for the short, medium, and long horizon of our analysis. The valuation risk consists in the different possible unpredictable scenarios which do not fall in the different our valuation model we analysed in our DCF valuation. The interest and price risks examine the different market risks ERC could be exposed to. The legislative risk is associated with possible changes in the sector's regulatory framework and the required timing of bureaucratic processes, which could impact the industry's overall dynamics. The operational risk considers the scenario where ERC divests part of its assets in the upcoming business plan (2022-2025), leaving the company with a less diverse portfolio of assets, exposing the company to a shortage of resources. The political risk, given the transitory times the Italian government is experiencing, could potentially add a relevant degree of uncertainty which should be carefully considered when choosing to invest in an Italian company like ERC.

### Recommended investment action

The analysis concludes that ERC's targeted price offers a 26,56% upside versus the current market price. This can be partially explained by considering ERC's low cost of debt (3,47% 2020E), which currently could have not been entirely captured by the market. Consequently, this enables ERC to have easier access to new investment opportunities compared to its peers and allows it to have a lower discount factor. ERC's current market price could also be missing the potential opportunities which the upcoming business plan ERC will present in May, causing its current stock price to be undervalued. Within our report, a non-financial analysis (ESG) is also carried out, which supports our discount factor hypothesis of why the market has not fully captured ERC's value, additionally backing up our analysis in recommending ERC as a buy.



Source: Refinitiv, Team Elaboration

## BUSINESS DESCRIPTION

### Company presentation

**From zero...** ERG was established in 1938 in Genoa by Edoardo Garrone, from where the company takes the name: Edoardo Raffinerie Garrone. The family company began its business in the refining petroleum sector, where it progressively grew its business by building pipelines in Italy. During the 1960s, ERG's main refinery, San Quirico, began a period of expansion, doubling in size over the following three years, thanks to the construction of ISAB Refinery in Priolo (Sicily). This led the company to grow and increase its presence within the fossil fuel industry, and in 1986 ERG's market share increased further with the acquisition of Chevron Oil Italiana. This acquisition made ERG the largest private Italian oil group and soon became a large European refining and petroleum distributor.

**...to hero** The most important turning point for the company was the entrance in the renewable market in 2006 with the acquisition of EnerTAD, a company listed on the FTSE MIB that owned wind factories in Italy and France. Since then, ERG started its path of total industrial renewal which has transformed the group from a primary operator in the oil sector into one of the most important European players of renewable energy industry. In 2013 ERG sold its final stake of the ISAB refinery. This year also coincided with ERG becoming the leading wind operator in Italy, and also marked its entrance in the German market, where the process of internalizing Italian operations and maintenance activities also began.

**Business Model** ERG's activities consist in managing and maintaining its power plants, as well as producing and selling electricity mainly on wholesale channels (46% of 2019A revenues) through the IPEX electricity exchange. The electricity is also sold via bilateral agreements to the main customers of the sector through an "over the counter" (OTC) platform (6% of 2019A revenues), and partially to the industrial operator of the Priolo Site (6% of 2019A revenues). The company operates in four business segments: i) Wind, ii) Solar, iii) Hydro and iv) Thermo ERG receives incentives according to the yearly output of its wind farms, its photovoltaic plants in operation, and its hydroelectric plants. Hydro.

The Group's costs have three main components: i) Purchases (€275 mln, 2020E) that refer mainly to the purchase of electricity from the "Gestore dei Mercati Energetici" (GME), and gas from Eni and Edison S.p.A, and they also depend on the variation of the electricity price. Purchase costs also include the net impact of commodity hedging derivatives because the ERG trades derivatives on commodities to cover the variation's risk of the energy price; ii) Operating Costs, whose most important value is the expenses for services (€125mln of €186mln total operating cost, 2019A), and they refer mainly to maintenance and repairs (26% of services costs), consist of the costs for routine maintenance of electricity generation plants, and to consultancy costs (17% of services costs); iii) Personnel expense.

### Business segments

**Wind** This segment is the main driver of the company, with an installed capacity of 1967 MW, revenues of €414mn and 73% of EBITDAm (2019A). From day one, ERG's activities have been mainly focused on growing this segment, and in 2020, wind became the most important segment in terms of revenues, surpassing the thermo operations. ERG exploited its knowledge of the energy industry, establishing a strong presence within the wind sector. By applying their know-how, ERG has been able to make numerous strategic alliances in Europe, allowing the company to enter new markets and expand its operations.

**Solar** Represents the most recent entry in ERG's portfolio, with a total installed capacity of 141 MW, accounts for €71 mln of revenues, EBITDAm of 88% (2019A). Solar can be considered as ERG's "betting horse", as the company has already a major greenfield project in its pipeline in Germany for 600 MW.

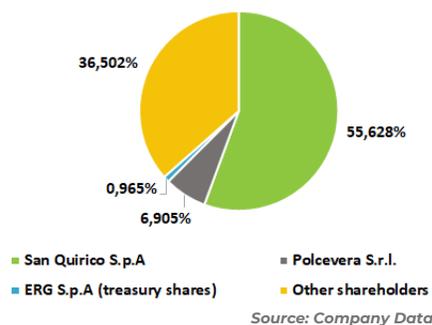
**Hydro** The only segment which is both renewable and programmable, accounts for €119mln revenues, and 74% of EBITDA margin (2019A). In 2015 ERG entered the hydroelectric sector by acquiring the entire Italian hydroelectric business of E.ON, the Terni Complex, to achieve in 2020 527MW of total installed capacity. This allowed the company to quickly have a well-diversified portfolio of renewable energy activities with the additional benefit of enjoying programmable production of electricity in accordance to their needs.

**Thermo** This segment, alongside the Hydroelectric one, represents a "jolly" for ERG, as both sources being programmable, ensure production continuity and flexibility. The total installed capacity of the segment is 480 mW and revenues for €418mln (2019A). However, the "sustainable goals" are still achieved, even with a non-completely renewable source. This is due to the process, which is based on high-yield and low-emission plants. ERG, by proving the amount of energy being saved and by utilizing energy-efficient initiatives and projects, is granted the possibility to earn white certificates (Certificati Bianchi), that are subsidies guaranteed to energy plants that utilize highly efficient technologies. On the other side, this segment represents a burden for the company's EBITDA, with an **EBITDAm of 17% (2019)**.

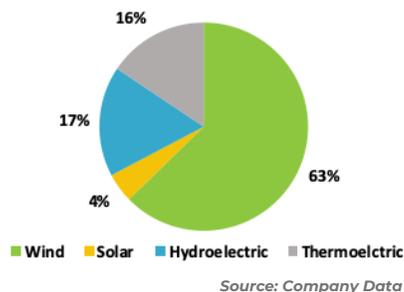
### Company Strategy

**Portfolio** ERG currently displays a well-diversified portfolio of business operations that grants the company a stable income even in face of unpredictable shocks like Covid-19 (Appendix). By operating in a commodity market, it is not possible to diversify products, therefore diversification must be done on costs and efficiency. The differentiation that we can consider when looking at ERG compared to competition, is that it has differentiated its operational activities compared to its rivals, which have a strong focus on limited segments of the energy market. Through strategic M&As and alliances, the company continues to enhance its distinctive capabilities, progressively increasing its know-how of the industry, enjoying strong support also from most European and global institutions.

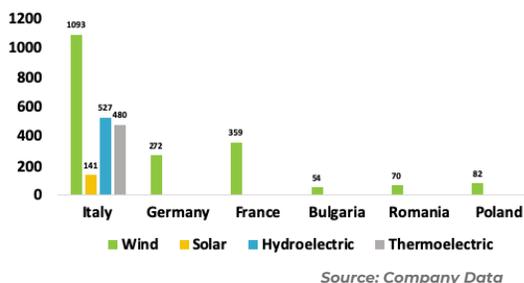
### Main Shareholders - Exhibit 1



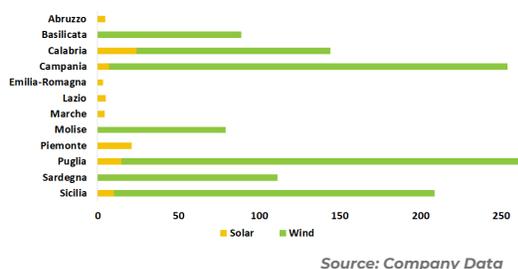
### Installed Capacity by sector - Exhibit 2



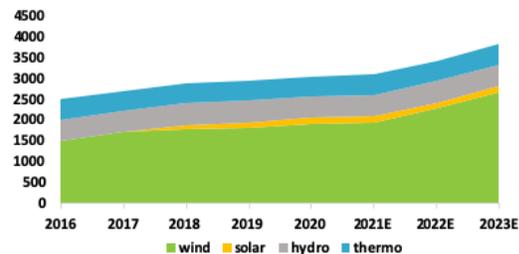
### Installed Capacity by country - Exhibit 3



### Installed Capacity per Region - Exhibit 5

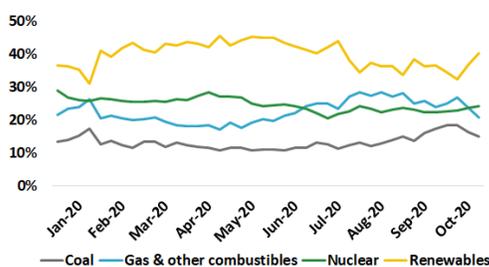


Installed Capacity Growth per sector - Exhibit 6



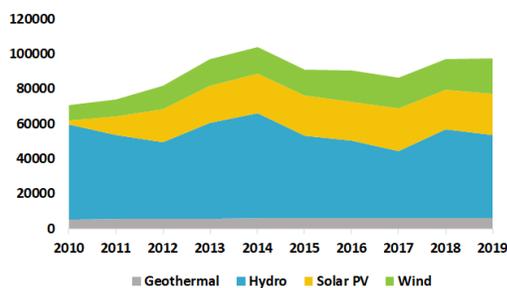
Source: Company Data, Team Estimates

Electricity mix in the European Union, January- September 2020 - Exhibit 7



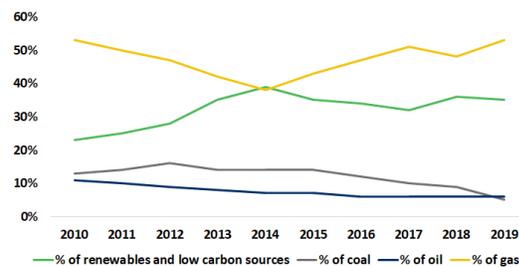
Source: IEA, Team Elaboration

Renewable electricity generation by source, Italy - Exhibit 8



Source: IEA, Team Elaboration

Share of different sources in power generation, Italy - Exhibit 9



Source: IEA, Team Elaboration

**Expansion** Growth and expansion in M&A in key regions like the U.K., in house activities, organizing their own maintenance and operations to reduce costs. ERG is showing a strong focus in keeping and growing its asset base and its knowledge through organic growth as well, mostly through Greenfield projects and Repowering. ERG's current expansion strategy is divided into three steps, mostly concerning Greenfield and Co-Development, where ERG exploits the pipeline projects in Germany, France and the United Kingdom. The second step concerns its operations in Italy, where a strong asset base is already in place and where the focus is on Repowering and re-blading to improve existing assets in the wind power sector to maintain a leading position in this market. ERG's third strategic pillar focuses on M&A opportunities, at this stage mostly concerning land acquisitions in Ireland, Germany and the U.K.

**Risk** The company undergoes specific hedging strategies utilizing IRS to hedge against interest rates (either floating or fixed), attempting to minimize the interest rate risk which is very important considering its asset heavy business. Moreover, the management has always displayed a consistent attitude towards risk, characterizing the company's activities towards a more conservative approach when new investment opportunities are available, showing coherence with its planning and prior strategies, by matching both their resources and know-how to their operations accordingly.

**Future oriented** ERG's success factors are displayed firstly, by looking at the timing of its market entry in the renewable sector. This is mainly due to the management's long-term vision and its ability to expand the acquired know-how in different European markets. An example of this long-term vision and strategy, can be obtained looking at the first ten years of the 2000s, when ERG decided to materially transform itself entering a downsizing process that not many companies are willing to accept. This implied decreasing the company's turnover and, as a consequence, their market capitalization, but also successfully achieving growth and higher profitability. That was probably a difficult decision at the time, but with a goal-oriented perspective on the future, ERG has been able to achieve impressive results, with stable earnings as well as outperforming the FTSE MIB over the past two years.

## INDUSTRY OVERVIEW and COMPETITIVE POSITIONING

### Renewable energy Industry

In 2020, global electricity demand amounted to 297,56 (Statista) TWh, down by 2.2% compared to 2019; Also in 2020, global production of electricity from renewable sources was TWh, up 6.6% compared to TWh in 2018 (IEA). The national production (net of consumption for auxiliary services) was guaranteed for 66% by thermoelectric power plants and for the remaining 34% by renewable sources; in particular, electricity power from renewable sources is 17% from hydroelectricity, 8% from solar energy, 7% from wind power and 2% from geothermal sources. Compared to 2018, wind (+14.1%), solar energy (+ 4.7%) and thermoelectric (+ 1.6%) production grew, while hydroelectric production (-4.6%) and geothermal (-1.2%) decreased. Within the renewable sector, there are several different types of "players": independent renewable-focused power producers (Albioma, Alerion CleanPower, Encavis, Falck Renewables, Neoen, Greenalia, Greenergy), utilities (Enel, Edidon, A2A, Audax renovables) and multiutilities (Acea and Hera). The transition of big utility companies like Eni and Enel to the renewable market in Italy could endanger ERG's market position (also considering the increase in competition in Europe) consequently, making it hard for ERG to protect its competitive advantage. However, the fact that the company displays a portfolio including four different businesses: solar, hydro, wind and natural gas, does not only make its diversification geographical, but also seasonal. This complementarity among the different energy sources supports ERG in maintaining its strong position within the market, allowing it to adjust accordingly to resource shortages and unforeseen events.

**Industry Attractiveness** To accurately analyze the renewable energy market, a five forces of Porter analysis has revealed the following results (see Appendix).

The **rivalry among existing firms** is medium, as the current level of concentration in the market is low and the high rate at which the renewable energy industry is growing reduces the internal competition. In recent years, the competitive scenario experienced a radical change: from using incentives to the introduction of competitive auction, from having infrastructural connotations to industrial features, resulting in an increase in the internal rivalry, that can lead in a margin citraction. In 2019 there was a decrease of the EBIT margin of 320 bps: 32.6% 2019 EBITm compared with 35.8% 2017 EBITm (FactSet) Moreover, many companies start investing resources to increase renewable energy production, thus applying for greenfield projects is becoming more competitive. To assess entry barriers, it is important to differentiate between two of ERG's business operations: greenfield and the acquisition of new plants. The first type of operations is characterized by large economies of scale, significant initial investments, flexibility and expertise to deal with long bureaucratic procedures to set up this type of business. This discourages potential new players, thus, the threat of new entrants is considered to be low. Whereas, acquisitions do not require high economies of scale and are easier to implement. These types of operations are more easily accessible, consequently the threat of new entrants is, in general, moderate.

**Threat of substitutes** in the short run is medium since within the energy sector, renewable energy companies compete against oil, coal and nuclear energy producers. In the medium/long term, this threat could be considered low, as the increased appeal of renewables and the ongoing energy transition will lead to a progressive replacement of conventional energy with renewable one. Many competitors rely on suppliers of various sizes which come from many different industries. For both non-specific components and essential elements of the power plant, the low concentration of these companies leads to a low bargaining power of suppliers.

Bargaining power of customers can be considered nonexistent. It is linked to the fact that most of the energy is sold through IPEX, an auction market and as a consequence, producers cannot freely set the selling price and consequently customers do not have any leverage to affecting the price.

**industry Trends** In the renewable energy market, the most important factors that might have an impact on the industry are:

**Strict European regulation** Through numerous directives, the EU is aiming to facilitate the transition to renewable energy, by completely eliminating the use of fossil fuels by 2050. Not only is the support for renewable energy production going to be available to current firms, but also a transition into a new green production from “traditional energy companies” will occur.

**Electrification of consumption** The electrification of industries, transports and buildings is expected to grow over the next 30 years, representing a great stride towards renewable power penetration. Electrification of transports, which is currently limited, is expected to reach a share of 28% of electricity generated from renewables, while the expectations for the building and industry sectors account for a share of 48% and 36% respectively (IRENA).

**Growing interests** in ESG. The growing interest of institutional and retail investors in ESG encourages companies to take into consideration sustainable projects and, in particular, the renewable power production, being one of the main parameters used for ESG ratings.

To prove this point, European funds investing on the basis of ESG criteria grew by 56% in 2019 compared to 2018. Furthermore, ECB data highlighted that, in the first quarter of 2020, the participation in ESG funds has increased by 4%-10%, while that in non-ESG funds has shrunk by 1%-8%

**Cost reduction** The acceleration of technological progress and the prompt diffusion of renewable energy technologies have led to a fall in costs associated with renewable power generation over the years, making renewable sources becoming increasingly more competitive. Indeed, the declining costs have already made renewable energy technologies the cheapest solution in many countries.

### Competitive positioning

**Industry competitive drivers** The main factors that shape the market positioning for a renewable energy producer are: i) company's size that determines the market strengths and the capability to achieve economies of scale, ii) efficiencies in operations and maintenance, iii) energy source and geographical diversification that determines the company's ability to counteract the revenues' volatility deriving from regulatory changes, economic cycles and weather conditions.

**SWOT** The renewable energy sector is a fastly growing with many opportunities in store. In September 2020, the European Commission proposed new targets for greenhouse gas emission reduction: the goal is to cut emissions by at least 55% for 2030 (from 1990 levels) and simultaneously, increase energy generation from renewable sources by at least 32%. The new targets are aligned with European long-term strategy to become climate neutral by 2050 and meet the requirements of the Paris Agreement. Therefore, ERG can continue its growth and expansion by leveraging its strengths alongside the EU objectives: i) more than 80 years of experience in the energy industry and 15 years in the renewable one; ii) flexibility from a well-diversified portfolio, that includes also two programmable resources, Hydro and Thermo; iii) know-how from managing directly their operations and maintenance activities of their plants, making ERG iv) increasingly efficient with the levelized cost of energy (the cheapest of the industry); and last but not least v) the company's financial stable structure.

As the Roman God Janus, the Thermo segment is characterized also by a negative side: this energy source may be considered as a weakness since it reduces the overall EBITDA Margin of the company and is not a pure renewable energy. Moreover, numerous countries have suppressed traditional schemes of incentives for renewable energy and have adopted mechanisms of “bearish auctions”(see Appendix). The new system increases competition in the sector. However, ERG can leverage its know-how and operating efficiencies to participate and win auctions and maintain significant margins as well.

**Competitive analysis** The main objective of the competitive financial analysis is to better understand ERG's market positioning and its financial performance within the renewable energy sector. The company's ROE (1,80% in 2019) is under the sector average but it has to be considered together with the financial position of the firms. In particular NFP/EBITDA equals to 3,30 with an average sector of 5,23, is particularly positive for ERG because it demonstrates a moderate risk situation in terms of indebtedness. A ROA (0,70%) under the sector average is strongly influenced by the new assets that ERG purchases in its expansion stage.

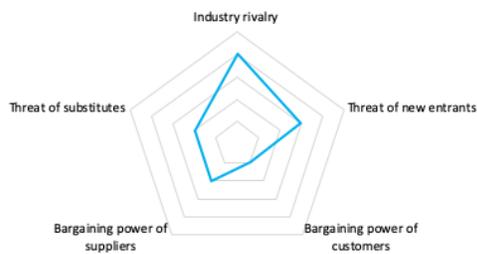
The EBITDA CAGR of the last five years (11,0%) is in line with the average and it can be considered as a positive result because it is influenced by new assets that become operating each year. This allowed the company to increase its stake in renewable sources vis a vis to the total energy production. However, ERG's EBITDA in the future could be influenced by the incentive reductions (possibly negative variation) and by an improvement in efficiency with cost reductions.

## Financial Analysis

### Renewable energy Industry

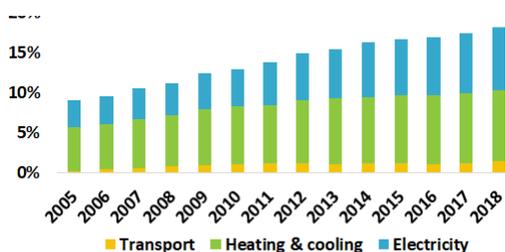
It may not strike you that this sector's level of production depends heavily on yearly weather conditions. However, business performance is also influenced by the sale price of electricity, which can vary in relation to the geographic areas where plants are located. Moreover, incentive schemes for renewable energy sources (which differ from country to country) also impact ERG's performance, alongside the regulative framework of each energy segment. Therefore, a good mix in terms of energy sources and geographical presence plays a crucial role for stabilizing the financial results. The success of ERG derives exactly from its unique mix of programmable and non-programmable, alongside its hedging and growth strategies.

### Porter's Five Forces - Exhibit 10



Source: Team Elaboration

### Share of Renewable Energy in Gross Final Consumption, UE - Exhibit 11



Source: EEA, Team Elaboration

### Swot analysis - Exhibit 12

#### Strengths

- Expertise in the energy industry
- Flexible and efficient structure
- Well-diversified portfolio
- Know-how in the renewable sector
- Efficient structure
- Stable financial structure

#### Weaknesses

- Thermo negative effect on margins and on brand reputation, as not being a pure renewable energy company

#### Opportunities

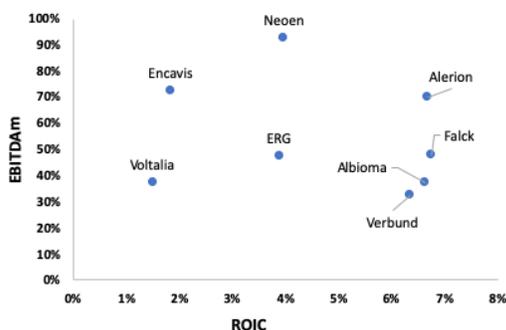
- Increasing demand for renewable energy
- High growing market

#### Threats

- Removal of the incentivising system
- Increasing competition

Source: Team Elaboration

Peer Group - Exhibit 13



Source: Team Elaboration

**Revenues**

**Wind** Represents the strongest revenue stream (41,6% of Revenues in 2020E) due to the large installed capacity and the expansion in seven different European countries. In the last five years, wind revenue shows a volatile trend due to: i) weather conditions ii) geographical expansion, that partially offsets bad weather conditions and iii) the termination of the incentives in Italy. Indeed, the slight decrease in Revenues recorded in 2020E derives from a lower energy production and from the end of incentives for 76 GWh in Italy.

**Solar's** operational contribution is low (7,2% of Revenues in 2020E) since ERG only entered in this market in 2018. Between 2018-2019, revenues almost doubled due to the increase in the installed capacity in Italy (+51 MW).

**Hydro** The renewable and programmable source accounts for 11,7% of Revenues in 2020E, and also shows a variable trend, mainly due to variation in water resources.

**Thermo** The second largest activity in terms of revenues (39,4% in 2020E) is Thermo. Factors determining the performance of the segments are: i) energy Price in Sicily, ii) spark spread and performance of the plant, and iii) incentives from White Certificate.

**Margins**

ERG's strong capabilities in managing its operations have progressively improved its EBITDAm\*, which rose from 45,08% in 2015A to 46,1% in 2020E. Conversely, EBITm decreased to 17,5% in 2020E (18,5% in 2019A). However, both EBITDAm and EBITm are in line with the industry peers (respectively avg.EBITDAm 43% and avg. EBITm 23%). The slight increase in EBITDAm derives from: i) a reduction in Purchase/Revenue, due mainly to a reduction in electricity costs both in 2018 and 2019, ii) partially offset by the increase in Personnel Expense/Revenues, due to the geographical expansion and increased capacity. Conversely, Services & Other Operating Costs/Revenues show a stable trend in the last five years. The solar sector shows the highest EBITDA (80% 2020E), followed by Wind (70% 2020E), Hydro (67,4% 2020E) and Thermo (18% in 2020E). This considerable difference is due to the small costs that are needed to produce renewable electricity, consisting mostly of operations & maintenance. However, these reduced costs are compensated by the high capital amounts required to purchase a wind park. Thus, renewable sources enable the company to have higher margins because of the less operative expenses and more incentives. In addition, the power production derived from natural gas grants a programmable, flexible and efficient energy source.

**Cash flows**

Free cash flows are substantially high, with an on-average FCFF/EBIT of 148% in 2016-2020E and on-average EBIT/Revenues 27% in 2016-2020E, supported the company to sustain its capacity and geographical expansion, as well as providing a substantial remuneration to its investors, in line with the dividend policies of ERG's main competitors (€0,75 DPS in 2020E). Starting from 2017, NFP/EBITDA increased, slightly, exceeding 3xNFP/EBITDA. However, the company is expected to return at an optimal level for net debt. To determine ERG's ability to pay off current debt obligations without raising external capital, the Current Ratio's value (2,5 in 2020E) highlights an improvement in its debt position, in comparison, also with the on-average Current Ratio in 2016-2019 of 2,5, due to a reduction of his level of debt, thanks to Green Bond emissions, giving ERG the opportunity to complete M&A procedures with leverage.

**Prospective Analysis**

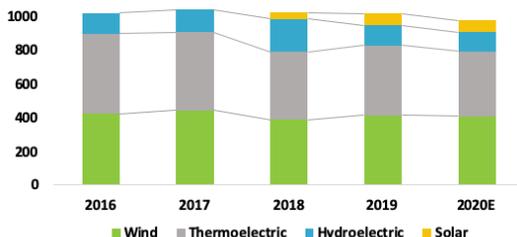
**Methodology** The valuation covers a time of ten years, with the aim of considering the end of the majority of incentives. Starting from the adjusted financial statements (see Appendix), our team focused on three periods. Our team estimated separately the revenues for each business segment, in order to account for the specific dynamics that characterised each sector, considering the following revenue drivers: i) totalled capacity installed, ii) load factor, ii) price, and iii) incentives.

**Short term(2021)** By assessing the current business plan and strategic actions, the financial performance depends mainly on: i) the completion of pipeline power plant in France (+299 MW), Germany (+224 MW), Poland (+36MW), Northern Ireland (+25 MW) and Scotland (+50MW); ii) higher Green Certificates (€110,02/MW) (See Annex); iii) the end of the white Certificates on Module 1 of the CCGT in 2020; iv) an increase of 16% in energy production for 60MW wind farm in Italy; and v) the delay of the commercial operation date for wind farms in Italy under repowering (182 MW) due to Covid-19.

**Medium term(2022-2025)** Our estimates are based on the potential goals of the next business model under the general consideration of the company's desire of increasing the capacity of its portfolio and increasing its presence in Europe, taking also in consideration the power plant in the pipeline. From our assessment, ERG s.p.a. performance depends mainly on: i) repowering, involving the activation of the seven wind farms of the previous business plan and an additional plants for 190 MW, whose capacity will more than double; ii) wind capacity expansion in France (+807 MW), Poland (+61), and Scotland (+293 MW); reactivation of the White Certificate for Thermo Module 1.

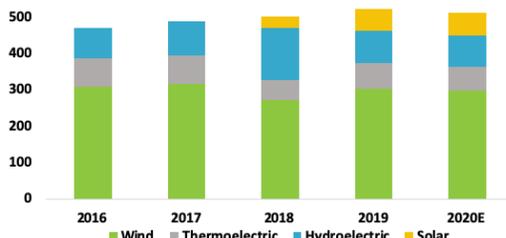
**Long Term (2026-2030)** Company's results are driven by: i) solar segment expansion in Germany (+600 MW), ii) a reinforcement of the market position in the Italian solar sector, assuming a growth similar to that experience in 2019 (+57%), iii) and assuming the hydro concession renewal. All previous assumptions are in line with ERG's goal of focusing on Greenfield rather than M&A, thus we assumed 5 years from the start of the operations from when the new project was announced.

Revenues by sector - Exhibit 14



Source: Company Data, Team Estimates

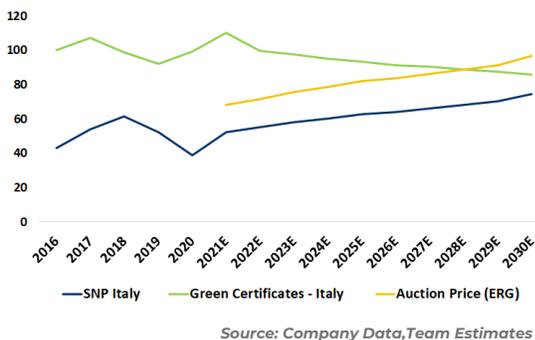
EBITDA by sector- Exhibit 15



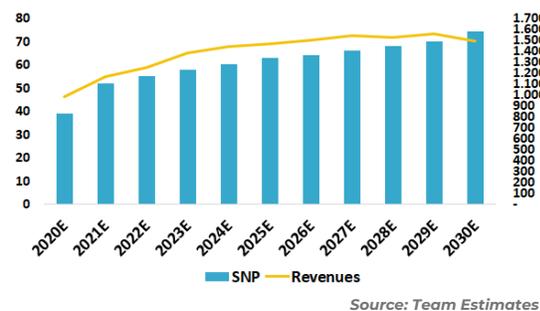
Source: Company Data, Team Estimates



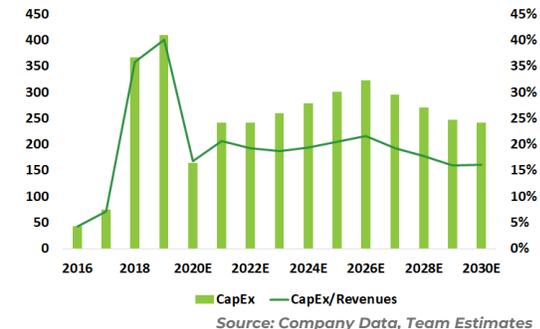
Energy price trend - Exhibit 16



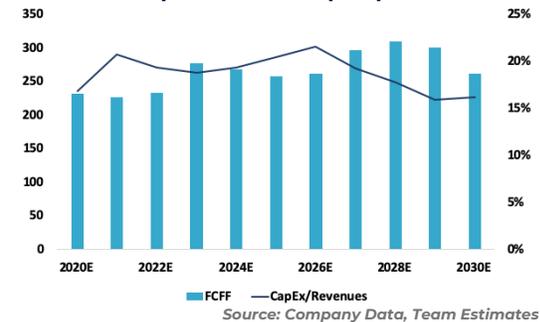
Revenues and SNP- Exhibit 17



CapEx cycles (mln)- Exhibit 18



FCFF and CapEx/Revenues (mln)- Exhibit 19



**Revenues** Both in the short and medium term (2021-2026), ERG will experience an increase in Revenues of +5.1% CAGR, thanks to: i) a significant increase in wind revenues of +8.6% CAGR, due to the additional installed capacity (+1839 MW in 2026) and increased production from repowering, and ii) a smoother increase in solar, hydro and thermo revenues, due to a reduction of energy production offset by expected increasing price. For the previous three years of the long term scenario, revenues are expected to experience an abrupt reduction in growth (+1% CAGR), due to the stabilization of wind, thermo and hydro segments, partially offset by the important growth of the solar sector (+14% CAGR). In 2030, company's revenue is assumed to decrease mainly due to the termination of the wind farm incentives and the hydropower concession

**Margins and returns** Our team assumed a yearly increasing impact (+2.5%) of Personnel Expense on revenues to account for the expansion. The analysis placed a consistent impact of purchases expenses on revenues, in line with a historic five year average (Purchases/Revenues of 28.06%), as well as for the Other operating costs and Services (Other Op. Cost/Revenues of 19%). According to our estimation, CapEx, which has a greater impact on revenues for 2021-2026 with an on-average CapEx/Revenues of 21%, which starts decreasing towards its initial value (17% in 2030). Already in 2021, we expect an increase in EBITDA (€535,56 mln) and the growing trend continuing for the following years with a CAGR of +4% for the medium term, thanks to an increase in ERG's portfolio for its renewable energy stake with respect to its total assets, that typically have higher margins. Whereas, the long term EBITDA is expected to start decreasing due to the termination of incentives. According to our assumptions, from 2021 ROIC (on average 8% 2021-2030) will experience an increase thanks to higher margins in the renewable sector and better efficiency in the maintenance and operations. Being that ROIC is higher than the company's WACC implies a healthy and growing company, that is aligned with its competitors (on average ROIC industry 6% in 2019).

**Cash flows** Our team expect free cash flows to increase over the valuation period (on average FCFF/EBIT of 63% & on average FCFF/Revenues of 17%) until 2030 due to the i) decrease in the EBITDA in tandem with the high maintenance costs. However, the company can generate enough cash flows from its operations and investing activities to create value for their shareholders, assuming a yearly growth for the dividend per share of 2.5%  
The NFP/EBITDA calculation of 2020 is 3.3 and it is slightly above the level of 3, but during the next 10 years, we expect a gradual reduction mostly due to an increase in EBITDA. In 2022 that value is under 3 with a CAGR reduction of 11.5%, allowing the company to be sustainable and raise debt for new M&A.

## VALUATION

The valuation model concluded with an estimated target price of €32.93, which implies an upside of 26,56% on the closing price of €26.02 and a BUY recommendation.

**Discounted cash flows** A three stage asset side DCF was performed to capture i) the current and upcoming business plan, ii) the diminishing trend of revenues, and iii) the terminal value.

**Current and upcoming business plan (2021-2027)** Our assumptions for the company's future performance estimated a growth for Revenues and EBIT of respectively +4.7% and +7.5% CAGR 2021-2027. In 2021 and 2022, CapEx accounts for the residual amount from the current business plan for repowering and the remaining greenfield projects. For the following years, we assumed the company to replicate the total investments of the previous business plan (€1,5bn).

**Slowing down (2028-2030).** In the last three years, revenues are expected to slightly decrease (-0.7% CAGR 2028-2030), as well as EBIT (-5%YoY 2018-2030). The company is assumed to stabilize, consequently, also CapEx decreases towards the initial level.

**Terminal value (2030N)** We computed the terminal value with the perpetuity formula with a growth rate of 0%. Since we expect an increase in sector competition due to bearish auction systems, where the firms margins are assumed to decrease, as ERG will enter into a competitive equilibrium.

For discounting the FCFF, our team used a WACC of 4,25% (see Table and Annex), obtaining a target price of €32.93.

WACC Assumptions		
Beta (β)	0.66	We computed the initial beta levered with a regression, taking ERG's returns over the past five years (monthly intervals) against the FTSE MIB index; then we computed the beta unlevered and beta unlevered adjusted for cash. At last we computed the final Beta levered=Beta adjusted*(1+(D/E)). For more details see appendix.
Risk free rate (r <sub>f</sub> )	0.81%	The risk-free rate was computed as the average of the AAA 30-year government bond in the Eurozone for the last six years. We decided to not only use the actual rate of 30-years government bond because the daily rates are more volatile, as the current rates are conditioned by the ECB emergency monetary policy for fighting the economic downturn caused by COVID-19 pandemic; for this same reason, we utilized the 30-year government bond and not the 10-year government bond.
Equity Risk Premium (ERP)	5.00%	Historical values of ERP for development countries. from Damodaran's datasets
Country Risk Premium (CRP)	2.14%	Weighted average CRP of the seven countries where ERG works (Italy, Germany, France, UK, Bulgaria, Romania, and Poland). For more details see appendix
Cost of Equity (k <sub>e</sub> )	6.27%	We applied the modified CAPM $k_e = r_f + \beta * ERP + CRP$
Cost of Debt (k <sub>d</sub> )	3.47%	For the computation of the cost of debt we took into consideration different approaches and then computed the cost of debt as an average value of these different results because ERG is financed through bank debt and also by issuing bonds (in particular green bonds) For more details see appendix
Marginal tax rate (t)	24%	To account for the debt tax shield, a tax rate of 24% was assumed which applies to earnings before taxes. The Italian regional tax IRAP doesn't generate a tax shield benefit, since it is only related to operational revenues and costs, so it's not included.
Leverage (D/(D+E))	55.71%	Considered ERG's current leverage

**Relative valuation**

Within the renewable energy sector, ERG'S portfolio is unique in terms of geographic and energy source diversification. To identify the panel of "pure" comparable firms, we adopted a three-stage approach: firstly, we analysed the holdings of several ETFs and funds investing in global clean energy sector companies, selecting the companies that operate in the European market. Secondly, only companies with a similar business model to ERG, i.e. independent producers of energy, were selected, discarding firms that operate mainly in the Thermo segment (for example ContourGlobal Plc), offshore wind (for example EDP Renovaveis and Orsted). The remaining companies were assessed in terms of size, profitability, risk, cash generation and growth. Such process resulted in the identification of a panel of "pure comparables"(see Appendix).

Performing an Ordinary Least Square regression on EV/EBITDA, utilizing the EBITDA Margin as the regressor for the panel of "pure" comparable firms, we derived an enterprise value for the firm of €6.9 billion, which implies a 14,47x EV/EBITDA and a market price of €37,5, with an upside of 44,12% , which supports the buy recommendation resulting from our DCF valuation model. (see Appendix).

**Divestment scenario (hydro and thermo)**

According to recent news (Il Sole 24 ore), the company has given the mandate to financial advisors, namely, the investment banks Mediobanca and Rothschild, to explore the opportunity to fully divest the hydroelectric and thermoelectric business.

The sale proceeds is expected to be worth more than €1 billion, which ERG could utilize to further finance its expansion in wind and solar sectors.

ERG has not currently released any direct announcements about this news, but considering the reputation of the newspaper releasing the article, and the fact that the divestment strategy would be in line with ERG's goal to become a major player in the European energy transformation, this scenario was included in our analysis.

The closing is expected in one year and a half, with positive cash flows of €1 billion in 2023. ERG has different alternatives, but, we presume that a large part of this amount will be reinvested in wind and solar (50% per sector according to our estimates).

As a consequence, ERG might increase investments in its wind segment in Germany, UK and France (in accordance with business plan goals) and also its solar operations in Germany and Italy.

This scenario could therefore increase the level of capex from 2023 to 2026 to almost €740mIn per year having no impact on NFP and keeping the same level of leverage that ERG has kept in past years. We are not assuming other extraordinary operations such as buybacks or extraordinary dividends, which could have a further positive impact for the mid-term.

The expected value of revenues was calculated analysing each sector. The relevant variables are the "expected energy prices" for each country (with particular focus on PUN, the Italian energy price); different typologies and values of incentives depending on the sector; load factor (which is the level of efficiency for each plant); assets in pipeline, considering the expected future commissioning date; growth in capacity, considering ERG's interest in solar and wind.

**Sensitivity analysis and Montecarlo simulation**

We conducted a scenario analysis to better evaluate the significance of changes in macroeconomic, operational, and strategic conditions on our valuation. Our best case is characterized by a more favourable domestic & European economic environment, with political stability and a stable rating of the Italian bond by foreign agencies, leading the country and more importantly, ERG, to a positive outlook. Assuming a terminal growth rate of 1% and a WACC of 3.8%, the target price would increase by 54%, compared to the base case, to €50.56. In our worst case scenario, under the assumption of both a deterioration in economic conditions, as well as an increase in ERG's discount rate, WACC equaling to 4.85%, and also maintaining our expected future growth at a 0% rate, our bearish scenario provides a share price of €27.55, down by approximately 16% compared to the base scenario.

The buy recommendation is further supported by the Montecarlo simulation, which was performed with 10.000 different scenarios with the following assumptions: Key driver of this analysis is the EBITDA, with particular focus on revenues which we assume has a normal distribution with an average (€1.4 billion) and standard deviation (8,54%) of their values for the upcoming years. The same distribution is assumed for costs with an average of €788 mln and a standard deviation of 8,54%.The figure in the appendix shows ten thousand different EV clustered in 50 classes and most of the values (62,14%) generates a buy recommendation scenario and the remaining 20,63% and 17,23% produce a hold and sell recommendation. The VaR at percentile level of 5% and 10% generates respectively an EV of €3,47 and €4,1 billion and a share price of €14,41 and €18,60. This analysis has to be considered jointly with the sensitivity analysis, with the combined effect of the WACC and the growth rate variation. Both estimates confirm our DCF valuation's buy recommendation and offer a useful perspective to evaluate the potential risk of variation from the most likely scenario, taking into account the main key drivers (growth rate, WACC, and the variation of revenues and costs). Other external factors that might deteriorate the most likely scenarios are analysed in the risks section, where we also give more information about the possible divestment of hydro and thermo.

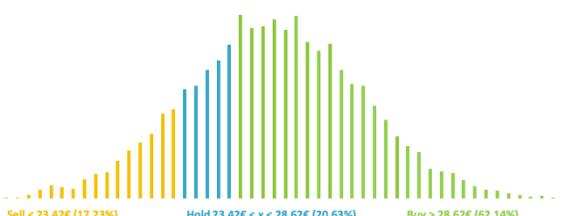


**Sensitivity analysis - Exhibit 20**

		WACC							
		3.80%	4.00%	4.25%	4.50%	4.85%	5.00%	5.25%	5.50%
Terminal growth rate	0.0%	38.09	35.65	32.93	30.52	27.55	26.41	24.65	23.09
	0.5%	43.38	40.31	36.94	33.99	30.43	29.07	27.00	25.14
	1.0%	50.56	46.52	42.17	38.45	34.04	32.39	29.90	27.69
	1.5%	60.86	55.22	49.31	44.40	38.74	36.67	33.58	30.87
	2.0%	76.89	68.26	59.63	52.72	45.09	42.37	38.38	34.97

Source: Team Estimates

**Montecarlo simulation - Exhibit 21**



Source: Team Estimates

## INVESTMENT RISKS

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### **VALUATION RISK: Sensitivity analysis & MonteCarlo Simulation**

In order to test the impact of variations of the terminal growth rate (g) and of the discount rate (WACC), a sensitivity analysis has been carried out. The results show a significant boost in share price as expected growth rises and WACC reduces simultaneously. The highest price recorded is €76.89, a 133% upside to our share price valuation (€32.93). A price reduction is observed under opposite conditions of the key rates. Our sensitivity analysis with the highest probability of 62.14% suggests a Buy scenario. However, with the scenario analysis we carried out, uncertainty revolves around the upcoming business plan and the future managerial strategies. Considering that ERG could potentially sell its hydroelectric and thermoelectric operations considered. There is the possibility that only one of these assets could be sold, changing the sale value reported and also changing the future strategies of the company. This sale could leave ERG with a less diverse portfolio, exposing the company to higher economic, meteorological and market shocks.

### **MARKET RISK: Interest rate risk**

ERG operates as an independent power producer on the energy market, is subject to either market determined rates and market influenced rates, not only for their operations, but also for the valuation of their assets. ERG's plants produce energy from renewable sources such as Hydro, Solar and Wind, consequently, they do not display revenue increases like other publicly traded companies, as ERG is dependent on meteorological changes as well as economic ones. Therefore, ERG's profits from these activities are quite smooth compared to other companies, as the variation due to weather conditions is quite mild and the incentives utilized have a determined deadline, alongside the company utilizing hedging strategy effectively to minimize drastic changes in their revenue streams. This is why, given the nature of ERG's company performance, its stock can be viewed more as a bond-like asset rather than a corporate share, which is exposed more to a global interest rate risk which impacts the valuation of its assets.

### **MARKET RISK: Price risk**

The price risk is also quite important to point out, as governments within the European Union differ in pricing on electricity power, causing ERG to be exposed to different policies in the different countries where it operates. More so, in the U.K. as its operations in renewable energy are intermittent. Moreover, the price level in the short run is expected to decrease (fitch), however, with the electrification progressively, the transition from traditional fossil fuel means of energy towards renewable ones, we would expect the energy price level to increase in the medium-long run. The short-run decrease in prices would reflect a negative impact on ERG's operations, leading also to influence its financial performance.

### **REGULATORY RISK**

ERG is exposed to Italian regulatory risk, where its repowering activities are particularly affected. Just recently, ERG saw its Nulvi-Ploaghe project in Sardinia blocked by the MIBACT (Ministry of Cultural Heritage and Activities) and then by the TAR (The Regional Administrative Court), after first receiving the approval from the VIA (Environmental Impact Assessment), and from both municipality and Regional authorities. If more decisions like this were to occur in the future, ERG's business plan could be hampered due to time inefficiencies, causing projects to potentially risk never being completely achieved. ERG could lose valuable investment opportunities and technological innovation adoptions similarly to what happened with the Sardinian project.

### **OPERATIONAL RISK: New Business plan 2022-2025**

Our DCF valuation is based on the portfolio ERG displays today, where it is able to successfully generate profits by relying on the diverse business operations which are both programmable and non-programmable. This however could change, in the scenario where the company decides to discontinue part of its business activities, more specifically, in the case where its chosen strategy would be to sell its hydroelectric and thermoelectric operations to focus entirely on wind and solar. This risk of a less diverse portfolio, composed only by non-programmable resources would result in more volatile revenues. The adoption of a new business plan, involving only solar and wind, would cause a short-run decrease in the company's presence in the Italian renewable energy market, as thermoelectric & hydroelectric activities account for 50% of total revenues. Additionally, the thermoelectric segment is the second most profitable business operation of ERG's portfolio (after wind). If this segment is sold off, it could cause distress on the company's ability to generate earnings, as although Solar's EBITDA margin is quite high (88% 2020E), its revenues are still quite low (7.3% on tot. revenues 2020E).

### **POLITICAL RISK**

ERG being an Italian based company, is influenced by the political uncertainty which currently dominates the country. With the name of Draghi being made, the financial markets have absorbed the current political instability positively. Considering Mr. Draghi's outstanding profile, his track record leading the E.C.B. and his strong European ideals, market integration, positive attitude towards the energetic transition, could be favourable for Italy to maintain its competitive position in the renewable industry. However, in the scenario where Draghi does not succeed in forming a government, there are strong chances the country will have elections, leading to high uncertainty. This could also lead to a new government which doesn't share the green and sustainable perspective that Italy and Europe currently have, leading to potential legislative and regulatory changes which could harm ERG's competitive advantage in the European market and impact the Italian renewable market as a whole.



## ENVIRONMENTAL, SOCIAL AND GOVERNANCE

### ESG comparables - Exhibit 22

Society	ESG Score	Environmental	Social	Governance
ERG S.p.A.	73	80	75	58
Albioma	52	54	39	62
Falck Renewables	55	44	68	60
Verbund	71	93	67	36
Contact energy	53	46	38	82
EDP Energias de Portugal	77	78	94	54
Meridian energy	57	60	54	56
Orsted	77	80	67	82
Transalta	51	58	44	46
Enel	89	92	93	78
Edison	61	66	67	43
<b>Media peers</b>	<b>65</b>	<b>68</b>	<b>64</b>	<b>60</b>

Source: Refinitiv, Team Elaboration

We developed an index to evaluate ESG performances, which takes inspiration from existing ESG index models like Refinitiv ESG score and MSCI ESG rating methodology (utilizing Refinitiv database). The index takes into consideration several parameters, 9 environmental, 23 social and 37 governance. The maximum obtainable score is 100, calculated as a weighted average of the scores of the three macro-items (the weights are E=45%, S=30% and G=25%), with a maximum of 100 points in each macro-items. We compared ERG's score with the ESG scores of several of its peers. Our ESG score of ERG is 73/100, above the mean of comparable companies (65/100).

**Environmental: 80 of ERG vs 68 of peers** The environmental valuation takes into consideration three items (climate change, waste and natural resource) and a total of 9 parameters; the most relevant of which are CO2 emission/revenues, renewable use ratio (which measures energy generated by renewable source divided by total energy generated), waste recycled/total waste and water use/revenues.

**Social: 75 of ERG vs 64 of peers** The social valuation takes into consideration three items (human rights, workforce and community) and a total of 23 parameters; the most relevant of which are human rights policy (which evaluates if the company has a policy in place for the exclusion of child, forced or compulsory labour), gender mix employees, gender pay gap, donation/revenues.

**Governance: 58 of ERG vs 60 of peers** The Governance valuation takes into consideration three items (board structure, shareholder interest and CSR strategy) and a total of 37 parameters. The most relevant are board's independent members, board's gender diversity, existence and independence of audit, nomination, compensation and corporate governance committee, shareholders right policy, director election majority requirement, multiple voting rights to major shareholders and CSR sustainability committee.

However, it is important to point out that we chose not to let ESG affect our valuation model. In accordance with Aswath Damodaran & Bradford Cornell's paper "Valuing ESG: Doing Good or Sounding Good?" where they concluded that there is currently no proof that higher ESG ratings are directly associated with greater profits or growth rates. However, it is important to recognize the strong evidence supporting the correlation between lower discount rates and high ESG ratings. This could lead to a higher valuation in the long run, hence supporting our thesis that the market hasn't perfectly captured and priced ERG's intrinsic value correctly. Consequently, to this finding, we believe that ERG's active ESG investing does not currently have an impact on its operating performance, but at the same time, it has already begun to have a positive impact on reducing its financing costs with the issuance of new green bonds.



### ESG variables - Exhibit 23

Environmental	Social	Governance
Climate Change	Human Rights	Board Structure
Waste	Workforce	Shareholder Interest
Natural Resource	Community	CSR Strategy

Source: Refinitiv, Team Elaboration

**Historical ESG Score** ESG metrics are not commonly mandatory financial reporting, but can result extremely useful in the future to identify material risks and growth opportunities when investing in companies. The transition into a renewable energy market ranks the company in a particular position regarding the ESG rating. In order to obtain a larger interest from investors, ERG has to pay attention to each single variable that might influence his rating. The most relevant increase of its ESG parameter, which led to an overall increase in its ESG ranking in the past three years, is due to the "Emission" category, within the "environment" macro-area, that measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. Another key driver of ERG's ranking score is "social", mostly related to personnel which measures a company's effectiveness towards job satisfaction, healthy and safe workplace. The "social" score increased from 2017 to 2018 (from 68 to 93) mostly due to "Human Rights" and "Community" scores, which are now respectively 93 and 87, starting from 34 and 53 in 2017 (Refinitiv). This clear trend shows an improvement regarding the respect of fundamental human rights, protecting public health and respecting business ethics. Overall, a positive trend is shown with an increase of Thomson Refinitiv score from 58 in 2017 to a 75 in 2019 achieving a "B+", that is very close to the threshold of "A-", which was obtained in 2020 from the Carbon Disclosure Project in the Climate Change program. ERG was promoted to "AA" rating, compared to "A" awarded to it in 2018, by MSCI ESG Research Ltd. ("MSCI"), for environmental and social factors and governance (ESG). This represents further evidence of ERG's efforts for transparency towards the market and towards its stakeholders in playing an active role against climate change.

**Future ESG prospective** According to ERG's business plan, we expect further improvements thanks to its goals in reducing CO2 emissions and increased investments in solar and wind sectors. By 2022, the final year of the current business plan, the company is committed to avoid CO2 emissions for 15 Mtons (6 M Tons of CO2 have already been avoided). To compute the calculation, the conversion factor gCO2/kWh published annually by Terna is utilized to reduce the carbon index by 14% of energy production, to preserve the biodiversity in their operating area and to reduce the amount of waste.



Source: Company Data, Team Estimates

## APPENDIX - Table of content

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## Porter's Five Forces

Industry rivalry	
<b>Concentration and size of competitors</b>	Within the renewable energy sector, the main competitors have a similar market share except for the first player, Enel, with 29,16%. Market concentration is low (HHI Index = 1.465; C3 = 46,3% (ARERA)).
<b>Industry growth</b>	Renewable energy is expected to satisfy 13% of the demand by 2025, growing at a CAGR of 5%. In particular, wind is expected to become the most important renewable source by 2025, and together with solar and hydro to cover 80% of the global demand by 2050. The sustained growth of the industry, that reduces internal competition, derives from a) the electrification process in place, especially in the automotive sector, b) Europe's path to decarbonization, to meet European energy and climate goals within 2050.
<b>Fixed costs</b>	Beyond the capital expenditure for building or acquiring new power plants and infrastructures, companies undergo operative and maintenance costs. In general, fixed costs for renewable energy are lower than variable costs. (d)
<b>Product differentiation</b>	Differentiation does not represent a crucial factor since energy is a commodity. The only difference refers to the sources used in order to produce it: renewable or fuels, with former having a zero impact on the environment.
<b>Diversity of competitors</b>	Competitors differ in different aspects: a) <i>origins</i> (some players have decades of experience in the energy sector while others are new player); b) <i>business area</i> (for example, in Italy, multiutilities vs power supplier); c) <i>asset portfolio</i> (some producers diversify energy sources, others prefer to focus on a limited number of sources).
<b>High exit barriers</b>	For the renewable power industry exit barriers can be categorized in: (a) <i>direct costs</i> , i.e. plant shut-down and site remediation costs; (b) <i>indirect costs</i> , i.e. the difficulty to liquidate and redeploy such industry's specialized assets and the opportunity cost due to the high entry expenses. Indeed, the significant capital expenditure and the long bureaucratic procedures may prevent companies from exiting the market.
<b>Shift in rivalry</b>	In recent years, the competitive scenario of the renewable energy sector experienced a radical change: from incentives to competitive auction, from having infrastructural connotations to industrial features, resulting in an increase in the internal rivalry.
Threat of new entrants	
<b>Capital requirements</b>	Capital requirements represent an important barrier to entry, since the renewable energy sector is capital intensive. Significant capital expenditure is required to build, install or acquire new power plants, as well as to improve the plant performance, capacity, and efficiency. On the contrary, maintenance costs are generally minimal. (c) It is also crucial to keep pace with technology advancements and investments in R&D, therefore particularly important.
<b>Government policy</b>	In the renewable energy sector, the government significantly affects the competition by supporting and adopting policies in favour of the transition towards renewable energy. Government policies ensure that the market is accessible to independent energy producers. However, authorization process and other procedures to set up this kind of business are overly long and cumbersome discouraging the entrance of new players.
<b>Product differentiation</b>	Energy is a commodity; thus product differentiation does not protect companies from the threats of new entrants.
<b>Economies of scales</b>	Within the renewable energy industry, economies of scales play a moderate role as barriers to new entrants for CapEx, maintenance costs and replacement parts, i.e. larger the capacity of the power plant, lower the maintenance costs.
<b>Cost disadvantages independent of scale</b>	Existing companies are favoured by the presence of cost disadvantages independent of scale: (a) advantageous positions, due to the importance of meteorological conditions; (b) preferential access to limited suppliers for top notch equipment, thanks to established arrangements with the main suppliers; (c) experience curve, since incumbents can rely on their extensive experience, great know-how and flexibility
<b>Access to distribution channels</b>	Within the energy sector, many companies operate as distributors managing the infrastructures under government grant and carrying out the maintenance. Therefore, distribution channels cannot be considered as an entry barrier, since new entrants can easily sell their production to GME, from which the several distributors purchase the energy. The energy industry presents the same structure also in France and Germany.
<b>Switching costs</b>	Switching costs are negligible due to the lack of bonds linked to the type of energy demanded on the IPEX market. However, switching costs could be significant under PPA contracts.
<b>Entry deterring price</b>	The renewable energy industry is a regulated market, in which price and incentives are set at a national level. In the last few years, downward auctions have been replacing feed-in-tariff and feed-in-premium; thus, having a low levelized costs of electricity has become extremely important, because only with low costs companies can win easily the auction by offering a low price, that also allows for positive margins.
Bargaining power of suppliers	
<b>Concentration of suppliers</b>	Within the energy production industry, suppliers come from many different industries: mechanical engineering industry, for turbines, boilers, WGT components; electronics industry, for different electric generators, electronic panels, engines; instrumental equipment; and different materials for the production sites. For both non-specific components and essential elements of the power plant, the low concentration of suppliers increases the bargaining power of energy producers (CR4=33%)

<b>Differentiation of inputs</b>	The level of product differentiation depends a lot on the components; however, the parts of the power plant that affect the performance and the production of energy are the most differentiated.
<b>Substitutes of inputs</b>	For non-specific components, such as carpentry, piping, electro-instrumental components, suppliers face higher competition, because their products are interchangeable; on the contrary, for essential equipment, as turbines and engines, competition reduce as technology and quality increase switching costs for energy producers
<b>Supplier size</b>	Supplies are sourced from suppliers of various sizes: from international companies and industrial groups to medium and small-sized ones.
<b>Dependence on the industry</b>	Suppliers for non-specific mechanical and electrical components are not overly dependent on renewable energy industry, while wind turbines or WGT components producers depend more on the performance and growth of the sector.
<b>Forward integration</b>	The specific skills and capabilities required in the production of each input as well as the huge amount of capital required make further integrations among suppliers difficult to realize
<b>Bargaining power of customers</b>	
<b>Buyers concentration</b>	Independent energy producers typically sell to energy distributors or directly on the energy market. Considering as direct buyers the energy suppliers which buy energy on the wholesale market and sell it to end-users, there is a limited number of customers and thus a certain concentration level. This situation applies also to customers in PPA contracts.
<b>Product differentiation</b>	Within the renewable energy sector, absence of product differentiation increases industry rivalry
<b>Price sensitivity</b>	Most of the energy is sold through IPEX, an auction market and as a consequence, producers cannot freely set the selling price and at the same time customers do not have any leverages for affecting the price. Regarding PPA, customers might be more price sensitive.
<b>Switching costs</b>	Switching costs are not relevant in this industry since energy acquired from any producers is the same.
<b>Threat of substitutes</b>	
<b>Number of substitutes</b>	Within the energy sector, renewable energy competes against oil, coal and nuclear energy. Currently, nuclear energy is the world's second most important low-carbon source of electricity (the first is hydroelectric) and it accounts for 10% of global energy production. In 2020, more than 400 nuclear plants are in operation in 30 countries, with a total capacity of 443 GW (IEA, 2020), that is expected to reach 506 GW (Statista, 2020) – 601 GW (IEA, 2020) in the next few years. Therefore, at the moment the significant presence of substitutes still represents a medium threat; however, in the following years renewable sources are expected to account for a larger slice of the pie
<b>Relative quality and price</b>	Relative price is not a relevant driver for substitution. The relative quality of the different substitutes might be relevant due to a greater interest in renewable energies compared to traditional sources.

## Competitive Financial Position

General			Dimension and growth			Margins		Cash	Returns			Other ratios		
Company	Country	Business model	Mkt Cap	Sales	EBITDA CAGR 5 yrs	EBITDAm	EBITm	Avg. 4Y CFO/ Current Liabilities	ROE	ROIC	ROA	Price/earnings	NFP/EBITDA	Asset turnover
ERG SpA	IT	Independent energy producer	3.855,7	988,9	11%	47%	16%	0,36	1,80%	4%	0,70%	90,70	3,30	0,20
Adani Green Energy	IN	Independent energy producer	19.189,8	335,5	n.a.	68%	51%	n.a.	14,40%	n.a.	-0,70%	n.a.	10,8	0,2
Albioma	FR	Independent energy producer	1.383,2	515,4	9%	38%	22%	0,55	10,58%	6,64%	2,60%	7,30	4,60	0,30
Alerion Cleanpower	IT	Independent energy producer	709,8	92,6	0%	70%	34%	0,33	14,20%	7%	3,10%	7,30	7,70	0,10
Audax Renovables	ES	Utilities	931,2	884,6	26%	6%	4%	0,17	20,90%	13%	3,20%	37,10	2,30	1,30
Contact Energy	NZ	Multiutilities	3.514,2	1.189,6	-3%	22%	11%	0,71	4,60%	4%	3,50%	35,90	2,60	0,40
ContourGlobal Plc	UK	Independent energy producer*	1.547,6	1.260,0	18%	46%	24%	0,17	6,40%	3,28%	0,50%	64,80	5,80	0,20
EDP Renovaveis	PO	Independent energy producer*	20.281,2	1.713,6	12%	70%	35%	0,43	7,00%	4%	2,70%	19,30	2,30	0,10
EDP-Energias de Portugal	PO	Utilities	20.187,9	13.089,3	0%	24%	11%	0,39	5,70%	4%	1,20%	27,40	5,00	0,30
Encavis	DE	Independent energy producer	3.578,3	300,5	30%	73%	29%	0,93	3,90%	2%	0,80%	55,50	n.a.	0,10
Enel	IT	Utilities	83.254,3	68.292,0	8%	27%	16%	n.a.	7,00%	8%	1,30%	33,10	2,70	0,50
Falck Renewables	IT	Independent energy producer	1.855,2	384,4	8%	48%	27%	n.a.	9,20%	7%	2,80%	28,40	3,90	0,20
Greenalia	ES	Independent energy producer	419,1	38,5	n.a.	10%	5%	0,06	-5,10%	1%	0,00%	n.a.	n.a.	0,20
Greenergy Renovables	ES	Independent energy producer	960,8	47,9	19%	15%	14%	0,15	34,50%	5%	10,60%	31,00	-5,70	0,70
Meridian Energy	NZ	Independent energy producer	10.721,7	1.948,9	7%	25%	15%	0,82	3,30%	5%	180,00%	70,00	1,90	0,40
Neoen	FR	Independent energy producer	5.210,1	292,2	52%	93%	60%	0,50	3,00%	4%	0,60%	72,80	8,60	0,10
Orsted	DK	Independent energy producer*	64.872,3	4.976,9	-40%	3%	-17%	0,30	19,60%	5%	7,80%	34,20	18,80	0,20
PGE Polska Grupa	PO	Utilities	2.849,9	9.749,4	0%	14%	3%	0,56	-8,90%	4%	-5,20%	n.a.	1,70	0,50
Scatec	NO	Independent energy and plant producer	4.870,5	250,7	36%	78%	51%	0,31	-1,60%	7%	-0,20%	n.a.	7,90	0,10
Solaria Energia Y Medio Ambiente	ES	Independent energy producer	3.033,8	49,6	13%	74%	41%	0,35	13,10%	26%	4,80%	35,60	8,70	0,10
Solarpack Corporacion Tecnologica	ES	Energy and plant producer	798,1	174,9	n.a.	40%	24%	-0,25	7,50%	12%	2,30%	36,30	10,20	0,20
TransAlta Renewables	CA	Independent energy producer	3.792,9	279,5	-10%	60%	27%	1,50	7,70%	3%	4,80%	22,90	3,40	0,10
VERBUND A	DE	Independent energy producer	28.366,5	3.754,1	7%	33%	23%	0,70	9,90%	6%	4,70%	28,00	1,40	0,30
Voltaia	FR	Independent energy producer	2.463,5	207,0	44%	37%	17%	0,64	0,90%	2%	0,40%	195,10	5,30	0,10
<b>Average</b>					<b>12%</b>	<b>42%</b>	<b>23%</b>	<b>0,5</b>	<b>6,91%</b>	<b>6%</b>	<b>10,07%</b>	<b>44,3</b>	<b>5,23</b>	<b>0,29</b>
<b>Median</b>					<b>9%</b>	<b>38%</b>	<b>23%</b>	<b>0,43</b>	<b>7,00%</b>	<b>5%</b>	<b>2,60%</b>	<b>34,20</b>	<b>4,60</b>	<b>0,20</b>

## WACC computation

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### Beta

We computed the initial beta levered by computing a regression taking ERG's returns over the past five years (with monthly intervals), and pinned them against the FTSE MIB (beta=0.62). We then calculated the beta unlevered (beta= 0.315) with the following formula:

Beta unlevered= BetaLevered/(1+(1-TaxRate)\*(D/E)). After this step, we computed the Beta unlevered adjusted (Beta=0.34) for cash with this formula: Beta adjusted= beta unlevered/(1-(Cash&Equivalents/Excess Cash)).

At last we computed the final Beta levered=Beta adjusted\*(1+(1-TaxRate)\*D/E) and we obtained a value of Beta=0.66.

### Risk-free rate

The risk-free rate was computed as the average of the AAA 30-year government bond in the Eurozone for the last six years. We decided to not only use the actual rate of 30-years government bond because the daily rates are more volatile, as the current rates are conditioned by the ECB emergency monetary policy for fighting the economic downturn caused by COVID-19 pandemic. For this same reason, we utilized the 30-year government bond and not the 10-year government bond. We obtained a risk free rate of 0.81%.

### Equity risk premium and Cost of equity

For the equity risk premium we utilized a historical ERP for developed countries equal to 5.00%, according to Damodaran's datasets. We computed a country risk premium using Damodaran's approach that consists in computing a sovereign default spread for each country where ERG operates. Moreover, we computed an average CRP calculated as a weighted average of sovereign default spread (weights are computed as percentages of revenues for each country on total revenues), obtaining a CRP equal to 2.14%.

We then proceeded by computing the cost of equity with a modified CAPM model used in Damodaran "Country Risk: Determinants, Measures and Implications": Cost of equity= Risk free rate + (Beta\*ERP)+CRP= 6.27%

### Cost of debt

For the computation of the cost of debt we took into consideration different approaches and then computed the cost of debt as an average value of these different results because ERG is financed through bank debt and also by issuing bonds (in particular green bonds). Therefore, we took i) the cost of debt for Green & Renewable energy sector equal to 2.53% (according to Damodaran "Cost of Capital by industry sector for the Europe"); ii) the cost of the debt for the last two green bond issued by ERG, equal to 0.5%; iii) the average cost of debt reported by ERG in its last annual financial statement equal to 2.7%; iv) a cost of debt computed with the sum of risk free rate and a default spread based on the ERG's rating (BBB-), obtaining a cost of debt equal to 2.62%; v) Default spread for the company based on its interest coverage ratio (EBIT/interest expense) utilizing Damodaran's approach, where we obtained a cost of debt=risk free rate + default spread= 9.01% (the default spread for each level of interest coverage ratio are in Damodaran datasets "Rating, interest coverage ratio and default spread"). We then computed the final cost of debt (before tax benefits) as the average of these different result and we obtained a Cost of debt= 3.47%

### WACC

The WACC was computed using the previous results and a value of D/E=125% (Refinitiv), so the weight for debt is D/(D+E)= 55.71% and the weight for equity is E/(E+D)=44.29%; the tax rate used in our model is 24%, we took only the Italian society tax rate IRES, and not also the Italian regional tax IRAP because it does not generate a tax shield benefit, since it is only related to operational revenues and costs; we decided to utilize the Italian tax rate because the main parts of production and sale of energy take place in Italy. We concluded with a WACC=4.25%

## Valuation assumptions

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### Common Estimates

PUN price estimates on "Fitch estimates" as well as estimates from other operators' business plans. The point estimates are computed for years 2021, 2022, 2024, 2026, 2030, where the price is calculated using an average of the estimates. For the years with no estimates available, we assume the same growth rate of the previous year.

Installed capacity: we take into consideration the assets in pipeline and their expected commissioning date. For the medium and long term, the same growth rate of previous years has been used.

### Wind

Green certificates: the exact value of green certificates is determined using the formula which  $(180-P t-1)*0,78$ , where P is the estimated PUN. This kind of incentive is received for every MWH produced by most of the current Italian wind plants, and it is not considered for the new plants. The pipeline assets will be assumed to receive the incentive or auction price in line with ERG data, when available. According to ERG, the residual incentives' life for the current operating assets is on average 10 years.

Load factor: The efficiency value of the plants is estimated considering the average of the previous load factors for each country and it has been kept constant. On average the expected load factor is 23% for the wind plants.

Production: Wind production for each country is computed with the following formula: installed capacity\*load factor \*number of hours.

Average auction price: For assets in the pipeline we expect a level of incentive equal to the average auction price, which has been estimated for each year. That means a gradual reduction in terms of incentive price.

### Solar

Feed in premium is the incentive for solar energy (currently 271€/MW) and it is considered for the current assets. The energy price for the German segment is computed regarding the unique solar assets in the pipeline (600MW in Germany). Being a greenfield project, we estimate at least 5 years until commissioning date.

Load factors: The efficiency of both plants (Italy and Germany in the pipeline) is computed considering the load factors for existing Italian ERG plants (18%), and the improving performance of German plants (starting from 12%), since ERG has no operating solar plant in Germany yet. In addition, we assume a decline in efficiency for solar panels of 0.5% per year.

### Hydro

Green certificates: the exact value of green certificates is determined using the formula:  $(180-P t-1)*0,78$  but only 40% of production is incentivized.

-Standard scenario: ERG does not plan further investments in the sector, for this reason the production remains the same. Furthermore, it is possible that the company will divest completely of its current hydro business.

### Thermo

White certificates: The level of incentives for the thermo business is computed considering the total amount of incentives' revenues for the thermo business, divided by the production. We keep this value stable.

# Financial Statements and ratio analysis

## Consolidated Income Statement

Consolidated Income Statement [€ thousand]															
	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
<b>Total Revenues</b>	<b>1.041.80</b>	<b>1.064.13</b>	<b>1.045.63</b>	<b>1.044.38</b>	<b>1.006.88</b>	<b>1.167.51</b>	<b>1.252.08</b>	<b>1.384.67</b>	<b>1.442.41</b>	<b>1.467.66</b>	<b>1.497.61</b>	<b>1.539.33</b>	<b>1.525.84</b>	<b>1.556.77</b>	<b>1.466.87</b>
	1	3	9	9	9	5	9	8	5	7	7	0	5	3	1
Growth		2%	-2%	0%	-4%	16%	7%	11%	4%	2%	2%	3%	-1%	2%	-6%
Personnel Expense	-62.260	-68.698	-66.800	-67.137	-67.337	-82.569	-90.759	-102.875	-109.839	-114.550	-119.804	-126.214	-128.230	-134.094	-131.746
% of Revenues	6,1%	6,5%	6,5%	6,6%	6,9%	7,1%	7,2%	7,4%	7,6%	7,8%	8,0%	8,2%	8,4%	8,6%	9,0%
Purchases	-330.231	-355.820	-327.239	-290.824	-275.224	-327.552	-351.279	-388.478	-404.676	-411.761	-420.163	-431.866	-428.083	-436.760	-418.665
% of Revenues	32%	33,8%	32,0%	28,5%	28,1%	28,1%	28,1%	28,1%	28,1%	28,1%	28,1%	28,1%	28,1%	28,1%	28,5%
Services and other Operating Costs	-195.897	-182.020	-172.025	-190.528	-186.128	-221.828	-237.897	-263.089	-274.059	-278.857	-284.547	-292.473	-289.910	-295.787	-283.533
% of Revenues	19,1%	17,3%	16,8%	18,7%	19,0%	19,0%	19,0%	19,0%	19,0%	19,0%	19,0%	19,0%	19,0%	19,0%	19,3%
<b>EBITDA</b>	<b>462.313</b>	<b>466.495</b>	<b>488.475</b>	<b>495.900</b>	<b>478.200</b>	<b>535.567</b>	<b>572.153</b>	<b>630.237</b>	<b>653.842</b>	<b>662.500</b>	<b>673.102</b>	<b>688.777</b>	<b>679.621</b>	<b>690.133</b>	<b>632.927</b>
EBITDA margin	45,1%	44,3%	47,7%	48,5%	48,8%	45,9%	45,7%	45,5%	45,3%	45,1%	44,9%	44,7%	44,5%	44,3%	43,1%
Depreciation and Amortization	-260.356	-257.639	-280.771	-305.954	-306.854	-275.257	-273.250	-271.485	-276.125	-280.203	-283.787	-286.938	-289.706	-290.076	-288.451
<b>EBIT</b>	<b>201.957</b>	<b>208.856</b>	<b>207.704</b>	<b>189.946</b>	<b>171.346</b>	<b>260.309</b>	<b>298.903</b>	<b>358.751</b>	<b>377.716</b>	<b>382.296</b>	<b>389.315</b>	<b>401.840</b>	<b>389.915</b>	<b>400.057</b>	<b>344.476</b>
EBIT margin	20%	20%	20%	19%	17%	22%	24%	26%	26%	26%	26%	26%	26%	26%	23%
Total net financial expense	-75.254	-70.125	-65.149	-137.643	-127.743	-135.218	-121.793	-111.096	-102.139	-106.789	-108.453	-110.900	-108.687	-106.086	-102.917
<b>EBT</b>	<b>126.703</b>	<b>138.731</b>	<b>142.555</b>	<b>52.303</b>	<b>43.603</b>	<b>125.091</b>	<b>177.110</b>	<b>247.655</b>	<b>275.577</b>	<b>275.507</b>	<b>280.862</b>	<b>290.940</b>	<b>281.228</b>	<b>293.971</b>	<b>241.559</b>
EBT margin	12%	13%	14%	5%	4%	11%	14%	18%	19%	19%	19%	19%	18%	19%	16%
Tax Expense	-28.503	-32.615	-39.282	-19.531	-11.773	-33.775	-47.820	-66.867	-74.406	-74.387	-75.833	-78.554	-75.932	-79.372	-65.221
Effective Tax Rate	22%	24%	28%	37%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
<b>Profit from Continued Operation</b>	<b>98.200</b>	<b>106.116</b>	<b>103.273</b>	<b>32.772</b>	<b>31.830</b>	<b>91.316</b>	<b>129.291</b>	<b>180.788</b>	<b>201.171</b>	<b>201.120</b>	<b>205.029</b>	<b>212.386</b>	<b>205.297</b>	<b>214.599</b>	<b>176.338</b>
Profit/Loss of Discontinued Operations	25.556	99.583	28.432	0	0	0	0	0	0	0	0	0	0	0	0
<b>Net Profit</b>	<b>123.756</b>	<b>205.699</b>	<b>131.705</b>	<b>32.772</b>	<b>31.830</b>	<b>91.316</b>	<b>129.291</b>	<b>180.788</b>	<b>201.171</b>	<b>201.120</b>	<b>205.029</b>	<b>212.386</b>	<b>205.297</b>	<b>214.599</b>	<b>176.338</b>
Profit/Loss to Non-Controlling Interest	-2.425	0	-133	-1.218	-1.818	0	0	0	0	0	0	0	0	0	0
<b>Profit/Loss to Ordinary Shareholders</b>	<b>121.331</b>	<b>205.699</b>	<b>131.572</b>	<b>31.554</b>	<b>30.012</b>	<b>91.316</b>	<b>129.291</b>	<b>180.788</b>	<b>201.171</b>	<b>201.120</b>	<b>205.029</b>	<b>212.386</b>	<b>205.297</b>	<b>214.599</b>	<b>176.338</b>

## Reclassified Balance Sheet

Reclassified Balance Sheet [€ thousand]															
	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Non-Current Tangible Assets	2.458.944	2.273.764	2.373.518	2.414.829	2.272.975	2.256.398	2.241.828	2.280.143	2.313.817	2.343.414	2.369.427	2.392.289	2.395.343	2.381.924	2.352.153
Non-Current Intangible Assets	802.545	760.501	930.780	1.110.716	1.116.200	1.116.200	1.116.200	1.116.200	1.116.200	1.116.200	1.116.200	1.116.200	1.116.200	1.116.200	1.116.200
Other Non- operating Investments	414.983	241.710	261.520	140.618	230.157	230.157	230.157	230.157	230.157	230.157	230.157	230.157	230.157	230.157	230.157
<b>Total Non-current assets</b>	<b>3.676.472</b>	<b>3.275.975</b>	<b>3.565.818</b>	<b>3.666.163</b>	<b>3.619.332</b>	<b>3.602.755</b>	<b>3.588.185</b>	<b>3.626.500</b>	<b>3.660.174</b>	<b>3.689.771</b>	<b>3.715.784</b>	<b>3.738.646</b>	<b>3.741.700</b>	<b>3.728.281</b>	<b>3.698.510</b>
Cash and Cash Equivalents	427.195	812.992	774.193	653.533	859.995	682.950	704.319	764.255	843.361	927.441	1.028.296	1.141.498	1.252.049	1.384.291	1.473.278
% of Revenues	41%	76%	74%	63%	85%	58%	56%	55%	58%	63%	69%	74%	82%	89%	100%
Trade Receivables	292.978	255.534	251.001	193.466	208.500	214.859	262.666	277.294	300.090	320.492	328.891	332.306	340.610	337.567	345.814
Inventories	20.365	20.597	21.623	22.273	22.800	21.488	24.227	26.666	29.744	30.900	30.903	31.752	32.775	32.486	33.085
Other Current Assets	213.200	126.980	170.475	145.880	145.880	145.880	145.880	145.880	145.880	145.880	145.880	145.880	145.880	145.880	145.880
<b>Total Current assets</b>	<b>953.738</b>	<b>1.216.103</b>	<b>1.217.292</b>	<b>1.015.152</b>	<b>1.237.175</b>	<b>1.065.177</b>	<b>1.137.092</b>	<b>1.214.096</b>	<b>1.319.076</b>	<b>1.424.713</b>	<b>1.533.970</b>	<b>1.651.436</b>	<b>1.771.314</b>	<b>1.900.224</b>	<b>1.998.058</b>
Assets Held For Sale	0	261.069	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Assets</b>	<b>4.630.210</b>	<b>4.753.147</b>	<b>4.783.110</b>	<b>4.681.315</b>	<b>4.856.507</b>	<b>4.667.931</b>	<b>4.725.277</b>	<b>4.840.595</b>	<b>4.979.250</b>	<b>5.114.484</b>	<b>5.249.754</b>	<b>5.390.082</b>	<b>5.513.014</b>	<b>5.628.506</b>	<b>5.696.568</b>
Current Debt	165.800	294.353	341.428	136.364	148.290	147.114	143.330	141.585	139.988	138.526	137.188	135.964	134.271	132.181	129.663
Trade Payables	152.680	126.796	92.294	87.830	90.000	89.805	113.099	117.597	131.978	140.284	144.470	145.804	150.046	149.867	153.858
Other Current Liabilities	112.547	138.050	101.080	108.822	357.800	163.660	163.660	163.660	163.660	163.660	163.660	163.660	163.660	163.660	163.660
<b>Total Current Liabilities</b>	<b>431.027</b>	<b>559.199</b>	<b>534.802</b>	<b>333.016</b>	<b>603.390</b>	<b>400.578</b>	<b>420.089</b>	<b>422.842</b>	<b>435.626</b>	<b>442.470</b>	<b>445.318</b>	<b>445.428</b>	<b>447.977</b>	<b>445.708</b>	<b>447.182</b>
Non-Current Debt	2.157.955	2.008.120	2.096.425	2.317.829	2.520.541	2.451.895	2.388.835	2.359.750	2.333.131	2.308.770	2.286.474	2.266.069	2.237.852	2.203.010	2.161.056
Other Non-Current Liabilities	37.771	40.950	34.417	34.716	34.716	34.716	34.716	34.716	34.716	34.716	34.716	34.716	34.716	34.716	34.716
<b>Total Non-current Liabilities</b>	<b>2.470.083</b>	<b>2.314.327</b>	<b>2.419.479</b>	<b>2.561.609</b>	<b>2.555.257</b>	<b>2.486.611</b>	<b>2.423.551</b>	<b>2.394.466</b>	<b>2.367.847</b>	<b>2.343.486</b>	<b>2.321.190</b>	<b>2.300.785</b>	<b>2.272.568</b>	<b>2.237.726</b>	<b>2.195.772</b>
Non-Controlling Interest in Equity	0	0	0	11.530	3.900	3.900	3.900	3.900	3.900	3.900	3.900	3.900	3.900	3.900	3.900
Ordinary Shareholders' Equity	1.729.099	1.877.465	1.828.832	1.775.600	1.693.960	1.670.832	1.682.818	1.743.369	1.821.296	1.896.092	1.971.639	2.051.305	2.120.564	2.195.724	2.229.137
Liabilities Held For Sale	0	2.156	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Liabilities and Shareholders' Equity</b>	<b>4.630.209</b>	<b>4.753.147</b>	<b>4.783.113</b>	<b>4.681.755</b>	<b>4.856.507</b>	<b>4.667.931</b>	<b>4.725.277</b>	<b>4.840.595</b>	<b>4.979.250</b>	<b>5.114.484</b>	<b>5.249.754</b>	<b>5.390.082</b>	<b>5.513.014</b>	<b>5.628.506</b>	<b>5.696.568</b>

## Cash Flow Statement

Cash Flow Statement [€thousands]	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
<b>Profit Before Interest and Tax (EBIT)</b>	<b>199.759</b>	<b>206.658</b>	<b>205.506</b>	<b>189.946</b>	<b>171.346</b>	<b>260.309</b>	<b>298.903</b>	<b>358.751</b>	<b>377.716</b>	<b>382.296</b>	<b>389.315</b>	<b>401.840</b>	<b>389.915</b>	<b>400.057</b>	<b>344.476</b>
Taxes Paid	-14.200	-23.000	-20.537	-40.959	-46.263	-70.284	-80.704	-96.863	-101.983	-103.220	-105.115	-108.497	-105.277	-108.015	-93.008
Depreciation and Amortization	253.658	252.227	274.069	305.955	306.854	275.257	273.250	271.485	276.125	280.203	283.787	286.938	289.706	290.076	288.451
Change in NWC	31.210	33.951	-120.038	50.162	-13.391	-5.242	-27.252	-12.569	-11.493	-13.252	-4.216	-2.929	-5.086	3.153	-4.855
Other non-cash expenses	-104.476	-211.930	-137.220	-72.461	0	0	0	0	0	0	0	0	0	0	0
<b>Cash Flow from Operations</b>	<b>376.442</b>	<b>331.222</b>	<b>239.682</b>	<b>400.325</b>	<b>418.546</b>	<b>460.041</b>	<b>464.197</b>	<b>520.805</b>	<b>540.365</b>	<b>546.028</b>	<b>563.771</b>	<b>577.352</b>	<b>569.258</b>	<b>585.270</b>	<b>535.063</b>
CapEx	-55.622	-50.819	-52.702	-63.686	-165.000	-258.680	-258.680	-309.800	-309.800	-309.800	-309.800	-9.800	-92.760	-276.657	-258.680
CapEx/Revenues	5%	5%	5%	6%	17%	22%	21%	22%	21%	21%	21%	20%	19%	18%	18%
CapEx/Depreciation and Amortization	21%	20%	19%	21%	54%	94%	95%	114%	112%	111%	109%	108%	101%	95%	90%
CapEx/NFA	2%	2%	2%	3%	7%	11%	12%	14%	13%	13%	13%	13%	12%	12%	11%
Extraordinary Events	-7.712	46.085	112.712	-97.516	0	0	0	0	0	0	0	0	0	0	0
<b>Cash Flow from investing activities</b>	<b>-63.334</b>	<b>-4.734</b>	<b>60.010</b>	<b>-161.202</b>	<b>-165.000</b>	<b>-258.680</b>	<b>-258.680</b>	<b>-309.800</b>	<b>-309.800</b>	<b>-309.800</b>	<b>-309.800</b>	<b>-309.800</b>	<b>-292.760</b>	<b>-276.657</b>	<b>-258.680</b>
Change in Long term financial liabilities	-321.887	-128.065	-73.764	-236.654	-196.335	-68.646	-63.060	-29.085	-26.619	-24.362	-22.296	-20.405	-28.217	-34.842	-41.954
Change in Short term financial liabilities	-190.979	83.714	-141.113	39.480	260.904	-195.317	-3.784	-1.745	-1.597	-1.462	-1.338	-1.224	-1.693	-2.091	-2.517
Dividends	-142.800	-74.408	-171.139	-112.362	-111.653	-114.444	-117.305	-120.238	-123.243	-126.325	-129.483	-132.720	-136.038	-139.439	-142.925
Buybacks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Extraordinary Events	-6.246	110.192	0	-55.001	0	0	0	0	0	0	0	0	0	0	0
<b>Cash Flow from Financing activities</b>	<b>-661.912</b>	<b>-8.567</b>	<b>-386.016</b>	<b>-364.537</b>	<b>-47.084</b>	<b>-378.406</b>	<b>-184.148</b>	<b>-151.068</b>	<b>-151.459</b>	<b>-152.148</b>	<b>-153.116</b>	<b>-154.349</b>	<b>-165.948</b>	<b>-176.371</b>	<b>-187.396</b>

## Discounted Cash Flow model

DCF [€th]	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
EBITDA	444.512	448.462	459.936	482.411	452.311	535.567	572.153	630.237	653.842	662.500	673.102	688.777	679.621	690.133	632.927
D&A	-260.356	-257.639	-280.771	-305.954	-306.854	-275.296	-273.249	-271.485	-276.125	-280.203	-283.787	-286.937	-289.706	-290.076	-282.204
EBIT	184.156	190.823	179.165	176.457	145.457	260.271	298.309	358.751	377.716	382.296	389.314	411.839	389.915	400.056	344.475
Taxes	-50.000	-52.522	-48.374	-47.643	-39.273	-70.283	-80.703	-96.862	-101.983	-103.219	-105.115	-108.496	-105.277	-108.015	-93.008
ΔNWC		11.328	-30.995	52.421	-13.391	-5.242	-27.252	-12.569	-11.493	-13.252	-4.216	-2.929	-5.086	3.153	-4.855
CAPEX	-60.000	-94.000	-510.000	-432.000	-165.000	-258.680	-258.680	-309.800	-309.800	-309.800	-309.800	-309.800	-292.760	-276.657	-258.680
<b>FCFF</b>	<b>334.790</b>	<b>314.268</b>	<b>-129.433</b>	<b>55.188</b>	<b>234.646</b>	<b>201.361</b>	<b>205.517</b>	<b>211.004</b>	<b>230.565</b>	<b>236.227</b>	<b>253.970</b>	<b>267.551</b>	<b>276.498</b>	<b>308.613</b>	<b>276.383</b>

### Present Value

FCFCC 1.945.982

WACC 4,25%

Growth 0,00%

Terminal Value 6.503.137

PV TV 4.289.061

EV 6.235.044

NFP 1.400

Minorities 3.900

**Equity Value 4.407**

Share outstanding 148.870

**Share price 32,93**

## Revenues and forecast

### Wind

	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
<b>Total Capacity Installed (MW)</b>	<b>1720</b>	<b>1814</b>	<b>1822</b>	<b>1929</b>	<b>1968</b>	<b>2302,6</b>	<b>2691</b>	<b>3289</b>	<b>3613</b>	<b>3635</b>	<b>3738</b>	<b>3746,7</b>	<b>3746,7</b>	<b>3746,7</b>	<b>3746,7</b>
Italy	1094	1093	1093	1093	1093	1093	1150	1248	1348	1370	1473	1473	1473	1473	1473
Germany	168	216	216	272	272	272	272	272	496	496	496	496	496	496	496
France	252	252	307	359	397	696	1003	1503	1503	1503	1503	1503	1503	1503	1503
Poland	82	82	82	82	82	118	143	143	143	143	143	151	151	151	151
Bulgaria	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
Romania	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
UK		48													
Nothern Ireland							25	25	25	25	25	25	25	25	25
Scotland							50	221,2	342,8	342,8	342,8	342,8	342,8	342,8	342,8
<b>Load Factor</b>	<b>23%</b>	<b>23%</b>	<b>22%</b>	<b>24%</b>	<b>22%</b>	<b>23%</b>	<b>23%</b>	<b>23%</b>	<b>23%</b>	<b>23%</b>	<b>23%</b>	<b>23%</b>	<b>23%</b>	<b>23%</b>	<b>23%</b>
Italy	23%	22%	21%	23%	20%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
Germany	16%	19%	18%	20%	19%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
France	23%	22%	23%	25%	26%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Poland	30%	35%	31%	36%	33%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%
Bulgaria	31%	33%	29%	29%	32%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
Romania	29%	33%	29%	31%	33%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
UK	n.a.	n.a.	n.a.	n.a.											
Nothern Ireland							38%	38%	38%	38%	38%	38%	38%	38%	38%
Scotland							38%	38%	38%	38%	38%	38%	38%	38%	38%
<b>Total Production (GWh)</b>	<b>3501</b>	<b>3613</b>	<b>3464</b>	<b>4000</b>	<b>3555</b>	<b>4815</b>	<b>5656</b>	<b>6928</b>	<b>7547</b>	<b>7590</b>	<b>7792</b>	<b>7816</b>	<b>7816</b>	<b>7816</b>	<b>7816</b>
Italy	2220	2117	2012	2161	1771	2166	2278	2470	2667	2710	2912	2912	2912	2912	2912
Germany	240	369	337	465	414	513	513	513	936	936	936	936	936	936	936
France	499	491	552	794	825	1502	2165	3244	3244	3244	3244	3244	3244	3244	3244
Poland	213	248	219	255	216	318	384	384	384	384	384	408	408	408	408
Bulgaria	148	157	138	135	140	138	138	138	138	138	138	138	138	138	138
Romania	181	201	175	190	189	178	178	178	178	178	178	178	178	178	178
UK		29	20	0											
Nothern Ireland							83	83	83	83	83	83	83	83	83
Scotland							167	737	1143	1143	1143	1143	1143	1143	1143

### Wind-Repowering

Repowering							
Number of projects	Initial MW	Post RPW MW	Grid Connection	Advancement of authorization	Expected COD ERG	Estimate COD	
3	92		218 secured	waiting for signature by FAM	2022 - beg 2023	2022	
2	69		146 secured	waiting for FAM opinion	2022 - beg 2023	2023	
2	21		42 secured	waiting for Commission VIA opinion	2022 - beg 2023	2023	
<b>7</b>	<b>182</b>		<b>407</b>				
1	43		113 secured	negative FAM opinion under recourse	2023+	2024	
2	37		67 applied	waiting for FAM opinion	2023+	2024	
4	92		195 secured	applied for authorization	2023+	2026	
1	18		40 applied	engineering for authorization	2023+	2025	
<b>8</b>	<b>190</b>		<b>415</b>				

## Hydro

	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
<b>Total Capacity Installed (MW)</b>															
Italy	527	527	527	527	527	527	527	527	527	527	527	527	527	527	527
<b>Load Factor</b>															
Italy	29%	25%	38%	27%	24%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
<b>Total Energy Production (GWh)</b>	1358	1144	1740	1229	1140	1139	1138	1138	1137	1136	1135	1135	1134	1133	

## Thermo

	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
<b>Total Capacity Installed (MW)</b>	480	480	480	480	480	480	480	480	480	480	480	480	480	480	480
<b>Total Energy Production (GWh)</b>	2693	2453	2151	2504	2387	2353	2319	2286	2253	2221	2189	2158	2127	2096	2066

## Solar

	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
<b>Total Capacity Installed (MW)</b>			90	141	141	141	141	141	141	141	261	541	661	781	901
Italy			90	141	141	141	141	141	141	141	141	221	221	221	221
Germany											120	240	360	480	600
<b>Load Factor</b>															
Italy			16%	18%	18%	18%	17%	17%	16%	16%	15%	15%	14%	14%	13%
Germany				11%	12%	12%	12%	12%	13%	13%	13%	13%	13%	14%	14%
<b>Total Energy Production (GWh)</b>			126	222	222	216	210	204	198	191	320	758	886	1020	1160
Italy			126	222	222	216	210	204	198	191	185	382	369	356	343
Germany											135	275	419	569	726

## Revenues for sector

	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Growth					19,01%	7,24%	10,59%	4,17%	1,75%	2,04%	2,79%	-0,88%	2,03%	-99,91%	
<b>Revenues</b>	<b>1.024.000</b>	<b>1.055.000</b>	<b>1.026.000</b>	<b>1.022.000</b>	<b>981.000</b>	<b>1.167.515</b>	<b>1.252.089</b>	<b>1.384.678</b>	<b>1.442.415</b>	<b>1.467.667</b>	<b>1.497.617</b>	<b>1.539.330</b>	<b>1.525.845</b>	<b>1.556.773</b>	<b>1.467.000</b>
Wind	423.000	445.000	389.000	414.000	408.000	570.727	640.410	767.681	822.395	844.201	863.692	882.518	853.902	868.332	899.856
Solar	0	0	38.000	71.000	71.000	59.130	57.456	55.782	54.109	52.435	62.048	81.496	93.325	106.438	123.195
Hydro	122.000	137.000	194.000	119.000	115.000	134.953	133.435	135.770	37.352	139.260	139.727	141.388	142.877	144.410	0
Thermo	479.000	473.000	405.000	418.000	387.000	402.705	420.788	425.445	428.559	431.771	432.152	433.927	435.741	437.593	443.820

## Multiple valuation

In order to select the panel of “pure” comparable firms our team adopted a three-stages approach, starting from a pool of firms operating in the renewable energy sector by looking at the holdings of ETF and funds investing in global public companies involved in the clean energy sector (iShare Global Clean Energy and Global X Renewable Energy Producers ETF). Only companies with a similar geographical exposure and business model to ERG, i.e. independent producers of energy, were selected, discarding firms that operate mainly in the Thermo segment (for example ContourGlobal Plc) as well as in offshore wind (for example EDP Renovaveis and Orsted). Then, the remaining companies were assessed in terms of dimension, profitability, risk, cash generation and growth. Our teams focused on one multiples: EV/EBITDA, more appropriate compared to other multiples in consideration of the high level of debt of the energy sector. Performing Ordinary-least-squared (OLS) linear regression between the selected multiples and its respective regressor, we focused on the relation between 2019 1YF EV/EBITDA and 2020 EBITDA margin, and we derived an enterprise value for the firm of €6.61 billions, which implies a 14,10x EV/EBITDA and a market price of €32 with an upside of, that support our results from the DCF.

Company	General		Profitability		Risk			Cash		Growth		Competitors	Comparable
	Country	Business model	Mkt Cap	Sales	EBITm	EBITDAm	ROIC	D/E	Avg. 4Y CFO/ Current Liabilities	EBITDA CAGR 5 yrs			
ERG SpA	IT	Iep	3.855,7	988,9	16%	47%	4%	1,26	0,36		11%		
Adani Green Energy	IN	IEP	19.189,8	335,5	51%	68%	n.a.	6,31	n.a.		n.a.	X	X
Albioma	FR	IEP	1.383,2	515,4	22%	38%	6,64%	2,29	0,55		9%	✓	✓
Alerion Cleanpower	IT	IEP	709,8	92,6	34%	70%	7%	4,02	0,33		0%	✓	✓
Audax Renovables	ES	Utilities	931,2	884,6	4%	6%	13%	2,64	0,17		26%	X	X
Contact Energy	NZ	Multiutilities	3.514,2	1.189,6	11%	22%	4%	0,46	0,71		-3%	X	X
ContourGlobal Plc	UK	IEP	1.547,6	1.260,0	24%	46%	3,28%	10,72	0,17		18%	X	X
EDP Renovaveis	PO	IEP	20.281,2	1.713,6	35%	70%	4%	0,50	0,43		12%	X	X
EDP-Energias de Portugal	PO	Utilities	20.187,9	13.089,3	11%	24%	4%	1,85	0,39		0%	✓	X
Encavis	DE	IEP	3.578,3	300,5	29%	73%	2%	2,40	0,93		30%	✓	✓
Enel	IT	Utilities	83.254,3	68.292,0	16%	27%	8%	2,18	n.a.		8%	✓	X
Falck Renewables	IT	IEP	1.855,2	384,4	27%	48%	7%	1,51	n.a.		8%	✓	✓
Greenalia	ES	IEP	419,1	38,5	5%	10%	1%	n.a.	0,06		n.a.	✓	X
Grenergy Renovables	ES	IEP	960,8	47,9	14%	15%	5%	1,95	0,15		19%	✓	X
Meridian Energy	NZ	IEP	10.721,7	1.948,9	15%	25%	5%	0,35	0,82		7%	X	X
Neoen	FR	IEP	5.210,1	292,2	60%	93%	4%	3,66	0,50		52%	✓	✓
Orsted	DK	IEP	64.872,3	4.976,9	-17%	3%	5%	0,51	0,30		-40%	✓	X
PGE Polska Grupa	PO	Utilities	2.849,9	9.749,4	3%	14%	4%	0,27	0,56		0%	✓	X
Scatec	NO	IEP	4.870,5	250,7	51%	78%	7%	4,64	0,31		36%	X	X
Solaria Energia Y Medio Ambiente	ES	IEP	3.033,8	49,6	41%	74%	26%	1,80	0,35		13%	✓	X
Solarpack Corporacion Tecnologica	ES	IE&PP	798,1	174,9	24%	40%	12%	2,51	-0,25		n.a.	✓	X
TransAlta Renewables	CA	IEP	3.792,9	279,5	27%	60%	3%	0,42	1,50		-10%	X	X
VERBUND A	DE	IEP	28.366,5	3.754,1	23%	33%	6%	0,29	0,70		7%	✓	X
Voltaia	FR	IEP	2.463,5	207,0	17%	37%	2%	0,92	0,64		44%	✓	X

Multiple (y)	Regressor (x)	Equation	R <sup>2</sup>	EBITDAm	EV	NFP	Minorities	EqV
2020 1FY EV/EBITDA	2020 EBITDAm	Y=1.867+25.822x	94.6%	48,8%	6.919	1.400	3.900	5.587

## Revenues

Normal distribution with standard deviation: 8,54%

Since the estimate of the future revenues is made considering each single asset (current assets and pipeline), standard deviation is computed calculating their possible variation.

## Costs

Normal distribution with standard deviation: 8,54%

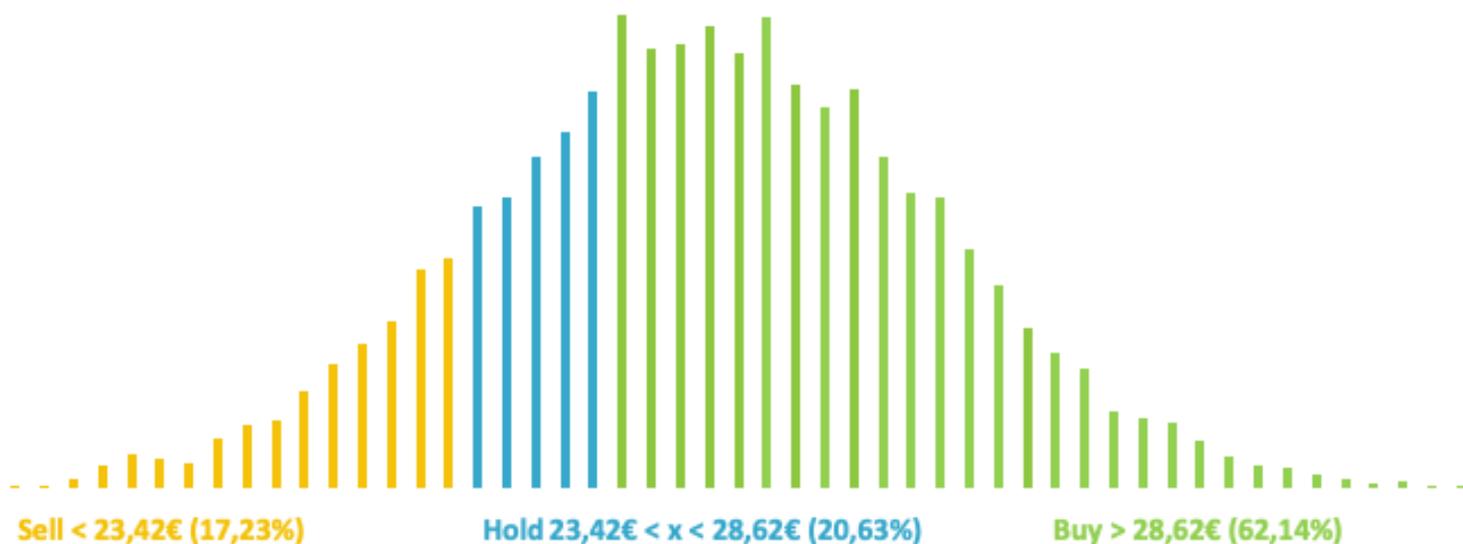
## CapEX

Average of the future capex, related to the revenues level

CapEX in DCF is estimated each year in accordance with ERG's goals and strategies. For this reason, we deemed that a normal distribution would have not been suitable.

## D&A

Average of the future D&A, related to the assets level Even in this case a normal distribution is not suitable due to D&A relation with assets and, as a consequence with revenues.



## ESG valuation

We developed an index to evaluate ESG performances, which takes inspiration from existing ESG index models like Refinitiv ESG score and MSCI ESG rating methodology (utilizing Refinitiv database). The index takes into consideration several parameters, 9 environmental, 23 social and 37 governance. The maximum obtainable score is 100, calculated as a weighted average of the scores of the three macro-items (the weights are E=45%, S=30% and G=25%), with a maximum of 100 points in each macro-items. We compared ERG's score with the ESG scores of several of its peers. Our ESG score of ERG is 73/100, above the mean of comparable companies (65/100).

ESG score		ERG S.p.A.		73
	Parameters		Score (single parameters)	Score
<b>Environmental</b>				<b>80</b>
	co2 emission/ revenues in million \$	1360,19	58	86,20
<b>Climate change</b>	energy use/ revenues in million \$	78,93	88	
	renewable energy use ratio	99,17%	99	
	renewable energy supply	68,85%	87	
<b>Waste</b>	nox emission/revenues in million \$	0,34	99	
	waste generated/revenues in million \$	3,79	70	70,00
	waste recycled/total waste	86,81%	70	
<b>Natural resource</b>	water use/revenues in millions \$	200837,08	29	64,50
	animal testing	false	100	
<b>Social</b>				<b>75</b>
<b>Human rights</b>	human rights policy	true	71	77,00
	policy freedom of association	true	80	
	policy child labor	true	73	
	ethical trading initiative	false	0	
	fundamental human rights ILO/UN	true	84	
<b>Workforce</b>	gender mix employees	men 79.2% women 20.8%	36	75,82
	gender mix managers	men 72% women 28%	69	
	gender pay gap	>1%	99	
	permanent employees	99,7%	99	
	turnover of employees	5,70%	65	
	net employment creation	2,31%	70	
	injury rate	2,92	69	
	average training hours	62,01	83	
	supplier ESG training	true	90	
	whistleblowers protection	true	69	
<b>Community</b>	internal promotion	true	85	
	donation/revenues in million \$	978,86	70	67,00
	policy fair competition	true	73	
	policy bribery and corruption	true	63	
	policy business ethics	true	61	
	policy community involved	true	60	
	employee engagement voluntary work	true	70	
corporate responsibility awards	true	72		
<b>Governance</b>				<b>58</b>
<b>Board structure</b>	board size	12		
	board independent members	58,33%	60	68,28
	board gender diversity (genere meno rappresen	33.3%*	60	
	board non executive members	75%	40	
	is there separation between chairman & CEO ?	true	100	
	number of annual board meeting	10		
	corporate governance board committee	false	0	
	nomination board committee	true	100	
	nomination committee independence	100%	100	
	audit board committee	true	100	
	audit committee independence	100%	100	
	compensation board committee	true	100	
	compensation committee independence	100%	100	
	policy board size	true	50	
	policy board independence	true	51	
	policy board diversity	true	49	
	policy board experience	true	60	
<b>Shareolders interest</b>	policy executive compensation performance	true	52	
	policy executive compensation ESG performanc	true	52	
	executive compensation policy	true	55	
	shareolders right policy	true	51	49,89
	policy equal voting rights	true	57	
	different voting right shares	false		
	policy shareolders engagement	true	60	
	director election majority requirement	true	61	
	shareolders vote on executive pay	false	0	
	shareolders approve stock compensation plan	true	70	
<b>CSR strategy</b>	golden parachute	true	40	
	multiple voting rights to major shareolders	true	40	
	pre-emptive rights	true	70	
	CSR sustainability committee	true	65	47,43
	global compact signatory	false	0	
	CSR sustainability reporting	true	57	
	CSR sustainability external audit	true	60	
<b>ESG reporting</b>	ESG reporting scope	100%	100	
	UNPRI signatory	false	0	
	sustainable development goal number	4-5-6-7-8-12-15-16	50	

### Management of resources

Company plants self-produce the electricity required to operate, and consequently their consumption levels are relatively lower than they would be if the electricity required to ensure operational continuity was sourced from the grid.

The most relevant energy consumption refers to:

- natural gas (methane) for use in gas turbines, which counts for all incoming energy consumption (99.6%);
- electricity, acquired or self-generated, used for the proper functioning of plants (hydro and thermoelectric);
- diesel fuel, used to test the correct operation of the emergency generators

The consumption of water is limited to solar panels cleaning activities, to power the turbines of hydroelectric plants (but releasing the same quantity and quality of water used to produce energy) and to produce the demineralised water needed to generate steam in thermoelectric plants.

### Re-blading in a sustainable approach

ERG is carrying on the re-blading activity to replace the turbines in the oldest wind farms with the latest generation models. The company reports the destination of all parts of a turbine that must be replaced:

- Steel, Cast Iron, aluminium and Lubrication are 90% reusable;
- Copper is 95% reusable
- PVC plastic and fibreglass are 100% reusable.

Furthermore, this activity will reduce noise pollution thanks to innovative and high-performance blades and making a restoration of currently occupied areas earmarked for dismantlement, returning the land to its natural state and original vegetation.

### Work conditions and ethics

ERG pursues the principles expressed by the "Code of Ethics and Sustainability Policy" and aims to implement an Anti-corruption Policy within the group monitoring and training the employees. The latter was adopted by ERG as well as by other Italian and foreign companies in line with the Code of best practices. The company has a specific "Enterprise Risk Management" structure periodically updated, and they also implemented the assessment of the risks and opportunities generated by climate change.

Regarding social responsibility, ERG provides training hours for its employees, equal to 8 days per employee each year, with a presence rate of 98% of company staff and around 84% of training activities focused on technical and managerial topics.

### Human right policy

ERG particularly gives attention to human rights, since they set up a specific policy whose compliance is required by all those who work within the company, namely, employees, suppliers, contractors or business partners.

Policy guidelines refer to guarantee healthy and hygienic working conditions, promoting professional development and recognition of results of work and to guarantee equal opportunities for diversity and minorities.

The Human Capital Committee is in charge of supervising and implementing these policies, verifying that those who submit a specific report are not subject to any kind of retaliation, discrimination or penalisation.