

# THE NEW RWE

A European  
Utility Transition



MASSIFCAPITAL

**Note:** Massif Capital believes that ESG investing has been misunderstood and mischaracterized (see our recent white paper: [Failure to Impact](#)). Rather than focusing on further integrating ESG variables into investment decisions, most ESG investing efforts have been tilted in favor of labeling firms as either “good” corporate actors or “bad” corporate actors. This is a mistake. ESG investing is at its best when it is geared towards gaining a deeper understanding of how a company’s growth, returns, and cost of capital will evolve in a world of changing opportunities and in which previously ignored risks went unpriced.

A good ESG investment is thus one in which a firm’s management team has looked at how the world is changing in relation to environmental and social considerations, introspectively evaluates the firm’s business model/products, and actively modifies strategy to not only confront head-on environmental and social liabilities but in doing so improves a firm’s growth potential, returns, and cost of capital.

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## Investment Thesis

RWE is a European utility on the cusp of becoming one of the three largest renewable-power producers in Europe and a global leader in offshore wind. The firm’s transition from a carbon-intensive fully integrated European utility to a renewable power generation focused operator will drive increased profitability, reduce the firm’s cost of capital, and improve its overall risk profile, increasing its value on a fundamental basis. The transition will also result in a shift in investor sentiment. The increased importance of ESG considerations to investors will result in RWE being priced at a higher multiple than it has been historically and more in line with its European renewable power peers.

Our work suggests that RWE is likely worth between €55 and €60 per share, an expected return of between 62% and 77% from its current share price. Further upside is possible depending on management’s development plans for the period between 2025 and 2035.

## A Transition Story Ten Years in the Making...

Before the announcement of an asset swap in late 2017 with E.ON, RWE was a traditional German utility, with significant exposure to thermal coal generation and nuclear power. As a conventional utility, RWE’s competitive advantage has always been limited. Recent changes in the European energy markets and public policy eroded the firm’s narrow competitive edge further. Following a particularly difficult operating stretch in 2015/2016, when generation earnings collapsed, the firm spun its non-commodity businesses (retail supply, renewable energy, and East/Central European grid infrastructure) off into a separate entity called Innogy, in which they retained a roughly 75% interest in.



The spinoff created a pure-play generating business, with assets primarily in Germany and a company less subject to Germany's uncertain regulatory issues (Innogy). Following the spinoff, the firm's core generating business backdrop improved with a rebound of power prices and a €1.7 billion nuclear fuel tax refund in mid-2017.

Looking to capitalize on the positive momentum, and with the regulatory picture around thermal coal in Germany becoming clear, RWE management boldly announced a significant asset swap with E.ON in early 2018. The asset swap (only completed in late 2019/early 2020) saw RWE trade its stake in Innogy to the E.ON while retaining Innogy's renewables business, in exchange for E.ON's renewables division and 16.7% stake in E.ON. The swap doubled RWE's renewable capacity from 3.4 GW to 8 GW and shed exposure to retail and distribution activities.

Asset	From	To
Innogy (76.8%)	RWE	E.ON
Cash (EUR 1.5 Bn)	RWE	E.ON
E.ON Shares (15.67% interest)	Newly Issued	RWE
E.ON Renewables Business	E.ON	RWE
Innogy Renewables Business	Innogy	RWE
Nuclear Minority Interest	E.ON	RWE
Interest in KELAG	Innogy	RWE
Gas Storate	Innogy	RWE

The markets take on the transaction was generally positive but failed to capture the strategic shift underway with the business model:

- Pre-Swap Strategy:** RWE used Innogy's dividends to pay for loss-making nuclear and coal mines. Any excess FCF from the core business, when it occurred, was paid out as dividends. This business model was based on a free cash flow maximization strategy that depended on the firm running existing thermal coal assets as efficiently as possible and with the lowest possible maintenance CapEx. Capital appreciation potential was limited; growth potential was tied to European electricity demand.
- Post Strategy:** Via the asset swap, RWE traded Innogy sourced financial cash flows for renewables generated operating cash flows. Put another way, RWE monetized its financial holdings to fund a new renewable business that immediately made the firm one of the top six renewable generators in Europe. Furthermore, in one move, RWE transitioned from a typical German utility suffering from the slow adoption of renewables due to legacy assets to one of Europe's largest renewable power developers and operators. The swap also primed RWE for further growth inside and outside core markets, an equity driver not previously present.



## Post Swap Asset Profile

### New Core Business

Offshore Wind	Onshore Wind/Solar	Hydro/Biomass/ Gas	Supply/Trading
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### 28 GW of Total Installed Capacity

- 8.7 GW of Installed Wind and Solar
- 20 GW Renewables Pipeline
- 19 GW of Hydro/Biomass and Gas

### New Business

Coal/Nuclear
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### 15 GW Capacity

- Reduced to 4.7 GW by 2025 & 1.9 GW by 2030.

Source: Massif Capital, RWE Corporate Reporting

With the asset swap completed, RWE management can now look to the future. The new-look RWE reports in five segments: Offshore Wind, Onshore Wind/Solar, Hydro/Biomass/Gas, Supply and Trading, and Coal/Nuclear. The core business (all segments excluding coal and nuclear) has a combined installed capacity of 28 GW, and the coal/nuclear segment has a total capacity of 15 GW.

#### *The New Renewables Segment*

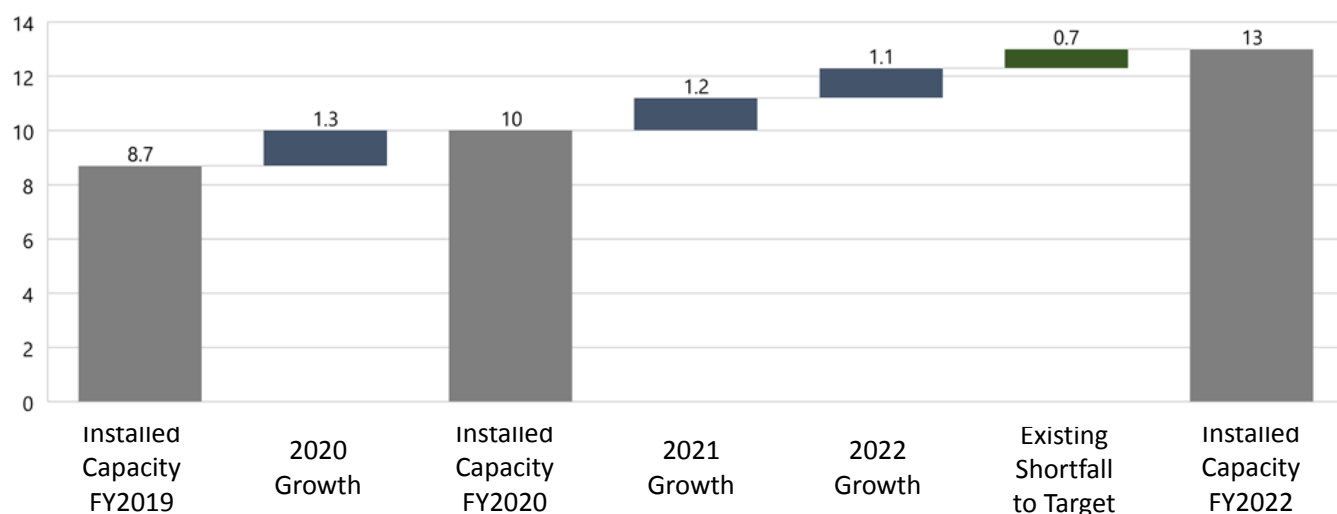
The RWE transition has been about fundamentally repositioning the firm in its market. Before the E.ON asset swap, RWE was a fully integrated utility with physical and financial asset exposure across the entire European energy value chain. Following the swap, RWE is a power generating and energy trading focused firm that derives most of its earnings power and future growth from renewables.

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## Renewable Capacity and Build Out to 2022 13GW Target (GW of Capacity)



Source: Massif Capital and RWE Corporate Reporting

### Changes to the Nuclear/Coal Segment

In 2022, 2.7 GW of nuclear power will come offline, the last of the firms operating nuclear capacity. Under Germany's nuclear phaseout, the power producers are responsible for the costs associated with decommissioning facilities. Currently, RWE management reserves €6.1 billion for the firm's nuclear facilities' closure and decommissioning.<sup>1</sup> The German government is responsible for costs associated with the safe storage, post decommissioning, of any radioactive material.

In addition to the closure of the firm's last operating nuclear facilities, next year will see the start of the coal-burning facility phaseout. The coal phaseout process is based on a government agreed plan that was voted into law earlier this year.<sup>2</sup> Under the law, hard coal assets are phased out based on an auction scheme in which the government will compensate firms for closing facilities, and lignite facilities will be phased out on a fixed schedule with fixed payments from the government to corporations.

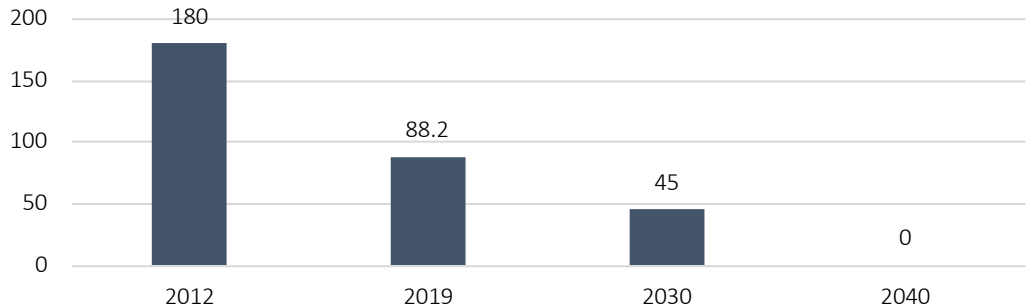
The first auction for hard coal facility closures occurred in December 2020, and RWE secured a payment of €216 Mil for closing 1.6 GW of hard coal capacity. With the closure of 1.6 GW, RWE is left with only 0.8 GW of hard coal generating assets in the portfolio. Management will likely tender that remaining capacity for closure in next year's auction. The economics under which next year's auction will occur are the same as this year, with a maximum payout of €155K per MW. In the December auction, RWE earned €138K per MW of capacity. Assuming the firm manages the same, the remaining 0.8 GW of hard coal generating assets has a value of roughly €110Mil or €0.17 per share.

Total compensation from the German government for the closure of lignite coal assets will be paid out in 15 annual installments, with RWE being paid a total of €2.6 billion. The government compensation will help offset some of the coal phaseout



liabilities, estimated to be €4.6 billion. Management has attempted to ring-fence this liability, offsetting it by allocating the firm's government receivables and the 15% stake in E.ON to it.<sup>3</sup>

#### Millions of Tonnes of CO2 Emitted\*



\*RWE has had their plans for decarbonization evaluated by the Transition Pathway Initiative, a 3rd Party organization which assess the degree to which organizations transition plans are in keeping with the Paris Climate Agreement. RWE's transition pathway has been assessed as being in line with the Paris Climate Agreement. Additionally, RWE has had their emissions inventory and emissions measurement methodologies and targets reviewed by the Science Based Targets Initiative, which has also confirmed they are in line with the Paris Climate Agreement.

Source: Massif Capital, RWE Corporate Reporting

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## Environmental Transition Results in Fundamental Valuation Uplift

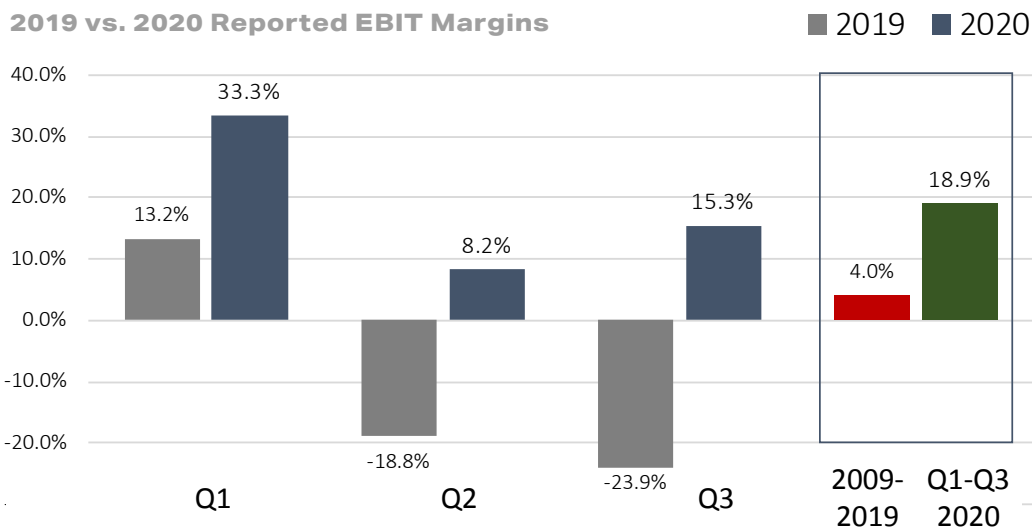
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### *Renewables Power EBIT Growth and Margin Expansion*

RWE is at the beginning of its transition regarding growing earnings and expanding



margins, but the results thus far have been impressive. In the first nine months of the year, RWE has experienced overall EBIT growth of 20% and EBIT growth from the renewables segment vs. the Pro-forma 2019 segment of 22%. At the same time, EBIT margins in the first nine months of 2020 vs. 2019 have improved by 16% to 20.5%. Given the pipeline of growth projects between now and 2022, we expect renewables EBIT to grow at a CAGR of 16%. With the addition of 1.6 GW of offshore generating capacity in 2026, and under the assumption no other assets are brought online between now and 2030, a questionable premise, renewables EBIT is expected to grow at a CAGR of 8% through 2030.



Source: Massif Capital and RWE Corporate Reporting

Growth will be tempered by the decline in EBIT from the closure of the firm's coal and nuclear segments, but still appears likely to generate a CAGR for firm EBIT of 2% through 2030. Given the subsidized pricing schemes under which much of the renewable output is sold, the swap of volatile market-priced generating assets for renewables is a value accretive decision. Investors can have high conviction that the EBIT expansion from the renewables segment will be long lasting and stable, especially compared to earnings from thermal generation.

Based on our asset level review of the firm's roughly 151 renewable projects in operation at the end of FY2019, 70% of projects representing 68% of total generating capacity are backed by subsidies creating increased earnings and cash flow stability. Subsidized assets represent 50% or more of generating capacity through 2027 and at least 33% through 2030. Growth projects continue this trend, with new capacity coming online between now and 2022 presold via either subsidized contract or PPA long into the future:

- Of the 1.1 GW of Americas-based solar and onshore wind the firm has brought online this year, just shy of 100% have offtake agreements of greater than ten years at fixed or hedged prices.



- Of the 581 MW of Europe and APAC solar and onshore Wind brought online this year, all but 45 MW has subsidized pricing through 2030, and the 45 MWs of unsubsidized capacity has been sold via PPA to an investment-grade off-taker in Spain.
- All four of the major offshore wind development projects coming online between now and 2026, totaling 2.4 GW of generating capacity, are backed by subsidized pricing.

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RWE management is improving the firm's growth and return potential while rapidly decarbonizing by addressing climate-related issues. ESG rankings fail to acknowledge this reality; they are backward-looking and fail to consider management's forward-looking strategy. As equity investors, we do not have the luxury of ignoring the future. RWE is a firm making a difference while making money. RWE is becoming an economically and environmentally sustainable business, an essential duality.

#### *Cost of Capital Reduction – A Promising but Not Yet Proven Proposition*

On the 3rd quarter 2020 earnings call, management noted that 85% of the firm's 2020 investments were green compliant under the new [EU Taxonomy For Sustainable Activities Framework](#). This passing statement refers to the recently issued EU Commission action plan for financing sustainable growth. It is a regulatory classification system under which companies may define their economic activities as sustainable. Compliance with the regulatory scheme's reporting requirements will become necessary in the future, but it represents more than just a reporting requirement.

Firstly, being classed as sustainable under the Taxonomy Regulation could make a company more investible, particularly to investors and funds with sustainable mandates and investment criteria. That the demand for sustainable investments currently outstrips supply, and the Taxonomy's "sustainable" label has been widely lauded as a milestone in sustainable finance increases the likelihood of this outcome. The Taxonomy disclosure and accreditation may also provide financial institutions and asset managers with a reliable label to identify sustainable assets and companies, creating a potential catalyst for growth in capital flows. Perhaps more importantly, from a fundamental valuation perspective, compliant companies may be able to issue sustainable debt more cheaply.

Although borrowing from banks and lenders, and attracting investors, will likely be made easier with taxonomy compliant projects and operations, a borrowers' costs are also likely to improve, reducing a company's overall WACC. Companies issuing





debt, the proceeds of which will be used in a taxonomy compliant manner, will be able eligible to issue the bonds under the soon-to-be-announced EU Green Bond Standard.

With interest rates already at rock bottom levels, the opportunity to issue cheaper debt might be limited but are nevertheless real. According to a recent [report](#) by the Bank for International Settlements, green bond yields at issuance were between 10 bps (AAA-rated issuers) to 45 bps (A- and BBB-rated issuers) lower than those of non-green bonds from the same issuer. It is not yet clear if these differences in yield will be sustained into the future, but the potential is intriguing. RWE has already created and issued a Green Bond Framework, assesses future projects within the context of the EU taxonomy, and has obtained a second party opinion of its Green Bond framework, which, much like an auditor's opinion, can serve as a stamp of approval for banks and lenders looking to assess the sustainable credentials of any potential issuance.

This year European utilities Engie, Vattenfall, Iberdrola, E.On and EDP have issued a combined €4.25 billion in bonds with a weighted average interest rate of 1.3% and an average maturity of seven years. RWE has had a weighted average cost of borrowing between 5% and 6% a year over the last five years. Given steps already taken, the firm could look to reprofile existing debt and borrowing for growth Capex at a substantially reduced cost. Time will tell if management can act on this opportunity, but they are already putting the pieces in place to attempt it.

## Valuation

Valuing RWE at this point in the firm's transition is a complex task; the firm retains thermal assets in runoff, the financial profile of the current renewable portfolio has a limited three-quarter history, and financial reporting offers fewer details on aspects of the portfolio than ideal. Complicating matters further is the high degree of electricity produced by wholly-owned assets but sold via the firm's Supply and Trading arm. The result is that the Supply and Trading arm is responsible for most of the firm's revenue via the sale/trading of electricity produced in other firm segments. The complications with intercompany sales that occur before the net revenue line result in 79% of RWE Group revenue arising from the Supply and Trading in the first nine months of 2020, even though the sales and trading arm is only responsible for 37% of the firm's EBIT over the same period.

We have approached our valuation in two ways: a sum of parts analysis in which the NPV of free cash flow to the firm arising from each of the firm's three primary segments was independently evaluated, and relative pricing of the firm utilizing the average EV/Sales, EV/EBIT and P/TBV multiples of comparable European utilities. The combination of approaches benefits from providing us with a fundamental derived value for the firm and a sentiment informed price that market participants appear willing to pay for similar cash flows.

Our work suggests that RWE is likely worth between €55 and €60 per share.



## Asset Level Sum-Of-Parts

We have divided the company into four reporting segments that can be assessed based on free cash flow to the firm; they are the Renewables Portfolio, the Coal/Nuclear, Supply, and Trading, and the Hydro/Biomass and Gas Segment.

### *Coal/Nuclear Segment*

We value the coal/nuclear segment between €4.16 and €5.26 per share, utilizing a 10% discount rate. The segment's value is derived from two sources: nuclear facilities currently in runoff before decommissioning and coal-burning assets. Starting in 2023, RWE will no longer derive any value from the nuclear facilities.

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Coal assets, of which the firm has both hard coal burning assets and lignite burning assets, will produce electricity at varying levels through 2038. The decommissioning of these assets will primarily occur between now and 2030, with a single asset remaining in operation until 2038. Decommissioning coal assets is expected to cost €4.6 billion, or roughly €580,000 per MW of capacity taken offline. In the case of both nuclear and coal-generated electricity, we have assumed all facilities run at 100% of capacity for the known remaining lives and assumed a range of revenue of €30 to €40 per MWh produced. We estimate NOPAT assuming the German government corporate tax rate of 15.8% and the segment's historical EBIT margin over the past five years (roughly 24.5%).

The necessary ongoing maintenance capital expenditures for the coal/nuclear segment is unclear, but we have assumed that on average in the past five years, reinvestment in assets has occurred as if the foreshortened life of the assets was not a given and that in the future, reinvestment in the assets will continue at the same level. Although we are open to the idea that this could underestimate the necessary maintenance CapEx, we believe it is more likely to overestimate the CapEx, especially in the out years as facilities approach their closure dates. These assumptions result in an expected ongoing maintenance CapEx of roughly €2.47 per MWh of electricity produced.

In addition to folding in closure costs to our free cash flow to firm estimate, we also include government payments to RWE that they have negotiated under the German Coal Closure Law. In total, in exchange for the closure of the firm's lignite coal asset RWE will be paid €2.6 billion in 15 equal yearly installments. We do not assume the early closure of any coal assets but acknowledge the possibility that RWE management moves quicker than required by the German Coal Closure Laws. Should they do this, Government payments to the firm will not change (they are enshrined in contracts and law), all though expected cash flows from operating assets will change.

### *Renewables Segment – Existing Assets and Known Growth*

The Renewable Segment we have broken into two sub-segments, current operating assets, and known growth projects. We repeat the same process utilized for the



coal/nuclear segment. We first determined an expected total MWh of electricity generated from existing assets using a project level database of RWE's renewables assets as of the end of 2019. We assume assets have a capacity factor on an ongoing basis through the end of the assets estimated 25 year lives, equivalent to the 2019 reported capacity factor (36.5% for offshore wind, 26.9% for onshore wind, and 12.5% for solar).

Given the subsidized/secured nature of most of the asset's revenue streams, we assume the portfolio generates EBIT on a per MWh basis of the average of its 2019 pro-rata and the first nine months of 2020, which works out to roughly €34 of EBIT per MWh produced. This is a higher number than might be expected compared to the per MWh revenue of the coal/nuclear segment, but RWE is compensated at above-market rates for most of the renewable assets' electricity, as already discussed.

Management has guided to maintenance CapEx of roughly €500 million for the portfolio in total from 2020 to 2022. Utilizing this estimate, we have determined the required CapEx on an MWh of produced electricity basis. We have discounted expected future free cash flows from the renewables segment at 5% based on our internal estimate of what project finance borrowing in Europe for renewables costs. We would note that many observed borrowing costs are lower than 5%, the utility borrowing via green bonds stated above for example, or the observed average [borrowing costs for offshore projects in Europe](#) last year, 150bps+LIBOR, but we lack the necessary comfort with such low interests' rates to justify utilizing a lower rate.

The result of this work is that renewable operating assets have an expected value on a per-share basis of roughly €25.6.

In the case of growth assets, we have only valued known growth projects for inclusion in our valuation range, totaling roughly 3.7 GW of total generating capacity, all coming online by 2026. However, it is worth reiterating RWE's current development pipeline is approximately 20 GWs, excluding the known growth. We are valuing only 15% of the pipeline in our base case valuation; see the discussion of the firm's theoretical terminal value below for more on the 85% of the pipeline that represents upside optionality from our base case valuation.

The known growth portfolio was valued the same way as the operating portfolio resulting in a per-share value of €8.22 per share. The known growth portfolios' heavy weighting toward subsidized offshore wind projects significantly boosts the growth assets' value.

#### *Terminal Value of Renewables Business*

The analysis of the existing portfolio of renewables assets and the known growth projects are valued, in our base case, as assets with 25-year working lives and no terminal value. As such, our valuation is very much an analysis of the firm today, not as a long-term going concern. The long-term reinvestment potential of RWE is very high, as the roughly 20 GWs of growth projects yet to reach final investment decision



suggests. The value of the ongoing reinvestment should, in our opinion, be viewed as upside optionality, with investors regularly updating a firm value as projects move through the pipeline from speculative to committed.

Nevertheless, it is helpful to think through some guardrails around what additional value might be produced from skillful reinvestment by management in the future, if for no other reason, then thinking through the outcomes will help us evaluate management reinvestment skill in the future. Although the growth pipeline offers plenty of opportunities to grow capacity, we are more comfortable estimating the terminal value of the existing portfolio if the firm reinvests for the stability of capacity at 13 GW of renewable power for the period after 2028.

In 2028, we forecast that the firms' renewable portfolio will generate free cash flow to the firm of roughly €1.7 billion. Suppose we assume a discount rate of 12% and 15%, rates high enough to underwrite significant uncertainty and discount back to the present. In that case, the terminal value of a stable renewable portfolio is between €6.25 per share and €9.65 per share.

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Although we like the fact that we can buy RWE at a discount to the value of its existing assets with no terminal value, given Europe's outlook for growth of renewables, it would be a mistake not to consider the reinvestment potential. For example, total offshore wind capacity in Europe currently stands at roughly 12 GW (off which RWE owns and operates approximately 20%); the recently announced [EU Strategy on Offshore Renewable Energy](#) calls for 60GW by 2030 and 300GW by 2050. By 2026 RWE will have 5.2 GWs of offshore wind or 8.6% of the 2030 projected market. If RWE aims to maintain a market share of 12%, that is an additional 2 GWs of offshore capacity on top of the 5.2 already penciled in for 2026; if they seek to retain a 15% market share, they need to build an additional 3.8 GW, at 20% the build-out would be 7 GWs. We estimate that further growth to maintain a reduced market share of 12% could boost 2030 EBIT by 2.5%, retaining 20% market share could increase 2030 EBIT by 8.5%.

This is just one example of the government-backed, socially supported renewables growth planned by the EU. Similar efforts are being made regarding onshore wind, solar, and even green hydrogen. Green hydrogen has had a moment this year, and any pure-play opportunity has experienced a monster rally. We will admit to being skeptical of pure-play opportunities (companies like PLUG and BE). The 2020s will likely be a good decade for developing a hydrogen industry, but most of the decade will be about market development and proof of concept pilot projects. Most pure-play opportunities are in the US; they lack the experience, lack the balance sheets necessary to accomplish their lofty goals, and, worse, lack the customers. Nevertheless, Green Hydrogen's potential to play an important role in the decarbonization of industrial processes is real, even if the near-term potential has been vastly overstated.

The RWE hydrogen plan, being executed within the context of robust European Union support, is thus a refreshing change of pace from what we are seeing in the US pure plays. Not only does the firm have the balance sheet necessary to accom-



plish their goals, but the firm's projects do not turn on until the latter half of the 2020s, some capacity has already been presold, and the commercial operations are far enough out to allow future customers to retool. To date, RWE's most significant Green Hydrogen announcement is their participation in the [NortH2](#) project, which is also the most ambitious green hydrogen project globally, scaling from 1GW of electrolysis capacity in 2027 to 10+ GW of capacity by 2040, all driven by offshore wind. For comparison, there is currently less than 500 MW of global electrolysis capacity. Hydrogen is pure upside from our valuation as the economics of projects are still uncertain. More clarity will be achieved next year regarding the economics of NortH2, as the consortium backing the project plans to publish a feasibility study.

The upside optionality embedded in RWE's growth pipeline and associated projects is significant.

#### *Remaining Segments and Net Debt*

We value the trading arm and the Gas/BioMass/Hydro segment employing a similar methodology, resulting in an expected value per share of €5.6 in total. We calculate the net debt as €846 million, including all the firm's financial assets, the firm's long-term debt, and the liability associated with decommissioning its nuclear assets.

#### **Sum-Of-Parts Value Per Share**

	Per Share
Coal Segment Value	5.26
Renewables (Operating Assets)	25.58
Renewables (Growth)	8.22
Hydro Biomass Gas	2.88
Supply and Trading	2.80
<b>Total Asset Value</b>	<b>44.74</b>
Net Debt Per Share	1.38
<b>Per Share Value</b>	<b>43.36</b>
<b>Expected Return</b>	<b>30%</b>

#### **Valuation Range with Terminal Value**

	12%	15%
Discount Rate	12%	15%
Per Share Value	\$53.01	\$49.61
Expected Return	59%	49%

## **Relative Pricing**

Given the positive sentiment around green firms and ESG, the relative pricing of the firm is warranted. The market enthusiasm for ESG is tangible, and we expect it to remain so for some time, producing a potentially significant sentiment-related bump to the firm's market price. We have chosen a selection of large European Utilities for this analysis and focused on LTM EV/Sales, EV/EBIT, and P/TBV.



Ticker	Name	Market Cap	EV/Sales (LTM)	EV/EBIT (LTM)	P/TBV (LTM)
RWE:GR	RWE AG	22,552	1.5x	14.9x	1.7x
EOAN:GR	E.ON SE	23,174	0.9x	15.5x	-1.5x
SSE:LN	SSE PLC	16,524	3.8x	19.7x	3.7x
ENEL:IM	Enel S.p.A.	82,553	2.1x	13.2x	5.1x
EDP:PL	EDP - Energias de Portugal SA	18,934	3.0x	21.8x	6.8x
IBE:SM	Iberdrola SA	71,216	3.5x	21.4x	3.9x
ORSTED:DC	Orsted	60,115	8.1x	39.6x	5.2x
<b>Average</b>		<b>45,419</b>	<b>3.55</b>	<b>21.85</b>	<b>3.86</b>

	Sales	EBIT	TBV Per Share
Variable (LTM)	12,635.0	2,638.0	16.9
Implied EV	44,866.3	57,643.4	
Less Net Debt	4,777.0	4,777.0	
<b>Implied Equity Value</b>	<b>40,089.3</b>	<b>52,866.4</b>	
<b>Resulting Per Share Value</b>	<b>65.2</b>	<b>86.0</b>	<b>65.4</b>

The positive sentiment around environmentally-friendly investments is on display in the multiples above. The utilities selected are all Europe based and focused. All are either associated with a transition to a greener, more renewable power base or derive the entirety of their generating capacity from renewables. The excitement around offshore wind can be seen in the high multiple people are willing to pay for industry leader Orsted.

Given the still present coal assets, we do not expect RWE to re-rate to the level of its cleaner peers immediately, but over the course of the next three to five years, re-rating should occur. By 2022, RWE will have more renewable generating capacity than all but two of the above utilities, and by the 2030s, could rival Orsted in terms of offshore wind capacity. A re-rate is not certain but seems likely.

## Risks to Thesis

There are several potential risks to our thesis.

The most apparent risk is softer German power prices, which could negatively impact the Coal/Nuclear valuation. Recent history suggests that the segment could be a weight around the firm's neck both from a value perspective and a sentiment perspective. RWE management is attempting to manage the price risk with hedges covering 90% of production through 2023, but the weighted average hedge price is 6% below the lower end of our expected price range. Should the firm only manage to achieve hedged prices for the remainder of the Coal/Nuclear segment's life, our expected value for the segment is overstated by 25%.

Furthermore, although the transition to a clean and green utility is well underway, sentiment around such changes is difficult to evaluate. Ideological purity may or may not be a significant variable in market sentiment, but it certainly is amongst the Green Movement in Germany. The Coal Closure Law is a good example; the only



political block in the German Parliament to vote against the Coal Closure law was the Green Movement. They voted against it because it was not sufficient. It is not easy to say if they would have voted against the law if their vote had been decisive (it was not), opening up the strong possibility their vote was just an attention-grabbing statement. Nevertheless, it was an interesting decision.

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To the degree that large swaths of the public believe that climate change requires an abrupt and painful transformation rather than a transition (a time-consuming process that plays out over decades), public sentiment may turn against RWE. Such a change, which the German Green Movement at least claims to want, would sway market sentiment against RWE regardless of management intentions. Furthermore, although the Coal Closure Law and agreements between the German government and the electricity producers enshrines in law and contract various payment schemes for closure, governments are fickle. To the degree that sentiment swiftly changes around the pace of coal closure, one could envision a government forcing a change that results in payments to corporates being rescinded.

The coal and nuclear segment could also negatively impact the firm if decommissioning costs overrun significantly. Although this is possible for the coal segment, the more likely place this happens is nuclear facilities' decommissioning. We have no way of handicapping this risk but would note that the potential of anything nuclear-related to overrun expected costs is high.

Despite the above risks, there is also the possibility that the closure of coal and nuclear assets in Germany over the next decade could turn out in RWE's favor. According to Fraunhofer Institute for Solar Energy Systems, in 2018/2019, coal and nuclear were still responsible for roughly 42% of Germany's electricity. With Nuclear generation (13.8%) shutting down by the end of 2022 and coal mostly phased out by 2030 with some limited residual assets still in operation into the 2030s, the supply of electricity generating assets is shrinking. According to the Coal Commission that helped prepare the Coal Exit Law, at least 60GW of additional onshore wind capacity would need to be built between 2020 and 2030 to pick up the slack (in addition to other renewable sources) from coal/nuclear closures. Due to regulatory issues and protests associated with sit choice for wind turbines, Germany is on pace to have built an average of 1.5 GWs in 2019 and 2020. They need to do much better or risk the possibility of a spike in electricity prices.

Another significant risk is RWE's failure to re-contract renewable assets at rates similar to what they are currently receiving. This is the most significant risk to our valuation. The continued growth in the corporate PPA market in all the locations that RWE has renewable assets provides some comfort that this is avoidable. Still, some deterioration in pricing is almost inevitable outside of Europe. Inside Europe, with the continued government drive to decarbonize, the demand for clean energy sources continues to far outstrip supply. As such, we think the risk for RWE's home market remains more limited. The continued build-out and growth of the firms generating capacity will offset some of this risk. The next decade remains a period during which most assets in the portfolio, and any growth assets, will have subsidized prices at high rates per MWh. Post-2030, this might become a more significant issue.



Poor execution of the firm's growth strategy is another possible risk that could negatively impact the firm. Although this remains a genuine risk, especially for offshore wind, a fast developing but still relatively new energy source, our valuation is driven by existing assets. Poor execution of growth strategies will negatively impact sentiment around the firm, and poorly allocated capital is value destructive, but the value to current assets does provide some protection.

## Footnotes

<sup>1</sup>The German government had a 3rd party conduct an audit and stress test of sums reserved by utilities for decommissioning in 2015. Although the auditor found a wide disbursement of methodologies used to determine the decommissioning costs they nevertheless concluded that under a stress test scenario decommissioning reserves appeared sufficient. Source: [Securing Utility Payments for the Nuclear Clean-Up](#)

<sup>2</sup>For indepth discussion of the Coal Phaseout see: [Europe Largest Economy Exists Coal To Reach Climate Goals](#)

<sup>3</sup>As of December 17th, 2020, the 15% stake in E.ON, plus the government receivables is worth €6 billion. Roughly 1.4 billion more than the coal phaseout liabilities.





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