



Ecofin Global Renewables Infrastructure Strategy

2024 IMPACT REPORT

FOR PROFESSIONAL INVESTORS ONLY



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01

Introduction



Michel Sznajer

Portfolio Manager

Ecofin Global Renewables Infrastructure Strategy

We are excited to write from our new offices following Redwheel's acquisition of Ecofin's listed equity business and investment team at the end of September 2024. Redwheel provides us with greater resources, including robust sustainability analysis and research that we believe will benefit our portfolios and our clients.

2024 has been an eventful year for the strategy's investment universe given uncertain trajectories for interest rates, power prices and policy decisions. Despite that backdrop, companies in our investment universe broadly continue to grow power generation capacity and expand grid infrastructure at pace to address rising power demand.

Our fundamental outlook for power demand and power prices is positive, especially in the US. The long-term thesis of electricity growth and, in particular, carbon-free electricity growth has only started to become apparent on the back of data centre growth, especially in the US, and electric vehicle adoption, especially in China and Europe. These trends have much further to run in our view given substantial need for investments in power generation and grid infrastructure to support this growth.

The delayed supply response to growing electricity demand and greater intermittency of new power generation sources are likely to

put upward pressure on power prices going forward, reflecting higher capacity costs and additional storage needs. We also believe that a potential reduction in tax incentives in the US could lead to higher power prices.

Separately, valuations are compelling on a historical basis and relative to the broader market as investors have been increasingly worried about policy developments while companies in our investment universe keep compounding earnings and cashflows. Many of these companies see investors ascribe no value to their growth despite the substantial growth outlook for electricity demand and attractive rates of return on new assets. In 2024, we have seen that private equity recognises the long-term opportunity in the sector and should again take advantage of low valuations to buy public companies if valuations remain low.

Importantly, we believe that it is not valuations alone that are attractive, but these low valuations combined with growth opportunities.

We believe that we are investing in companies that benefit from secular drivers that should extend well into the 2030s. However, we remain vigilant about policy decisions, particularly in the US market in the year ahead and beyond.

No investment strategy or risk management technique can guarantee returns or eliminate risks in any market environment.



Stephanie Kelly

Head of Greenwheel

It has been an exciting year at Redwheel thanks to the arrival of our Ecofin colleagues. For us in Greenwheel, their arrival marks an opportunity to work with and support an extremely well-informed team of investors.

Greenwheel is the sustainability insights partner to Redwheel's Sustainable, Transition and Enhanced Integration funds. We provide tailored thematic and sector level sustainability research and advice to fund managers, commissioned by fund managers, at every stage of the product lifecycle from fund design through to investment research and engagement support, dependent on each team's needs and requirements.

The Ecofin team have a long and robust investing history, so our focus is very much on building on this solid foundation. As such, I expect a lot of lively debates and hope that the team will benefit from Greenwheel insights, tools and frameworks designed to maximise sustainable investing opportunities, help minimise sustainability risks and ultimately support return and impact for our clients.

Greenwheel is made up of a core team of experts specialised in climate, environmental and social research with a range of experience from asset management, academia, non-governmental organisations (NGOs) and working on the ground with companies on

sustainability issues. Our climate lead Paul Drummond and climate analyst Anna Polise have already begun work with the team on further developing their work on avoided emissions while our social lead Jessica Wan will be a valuable support on human rights issues that emerge.

This combination of disciplines and focus areas provides both breadth and depth for the Ecofin team to draw on to complement their existing expertise. In addition, Greenwheel's experts bring with them deep networks to provide a variety of specialist perspectives from outside the asset management industry that we expect will further support the Ecofin team.

Finally, the Greenwheel Fellowship programme, an academic partnership that brings graduate students into the Greenwheel team for specific, fund manager-commissioned research projects, completes the flexible insights model allowing us to be nimble and investment outcome focused. We have already worked with the Ecofin team to identify potential research for one of the three Greenwheel fellowship projects to take place this summer.

02

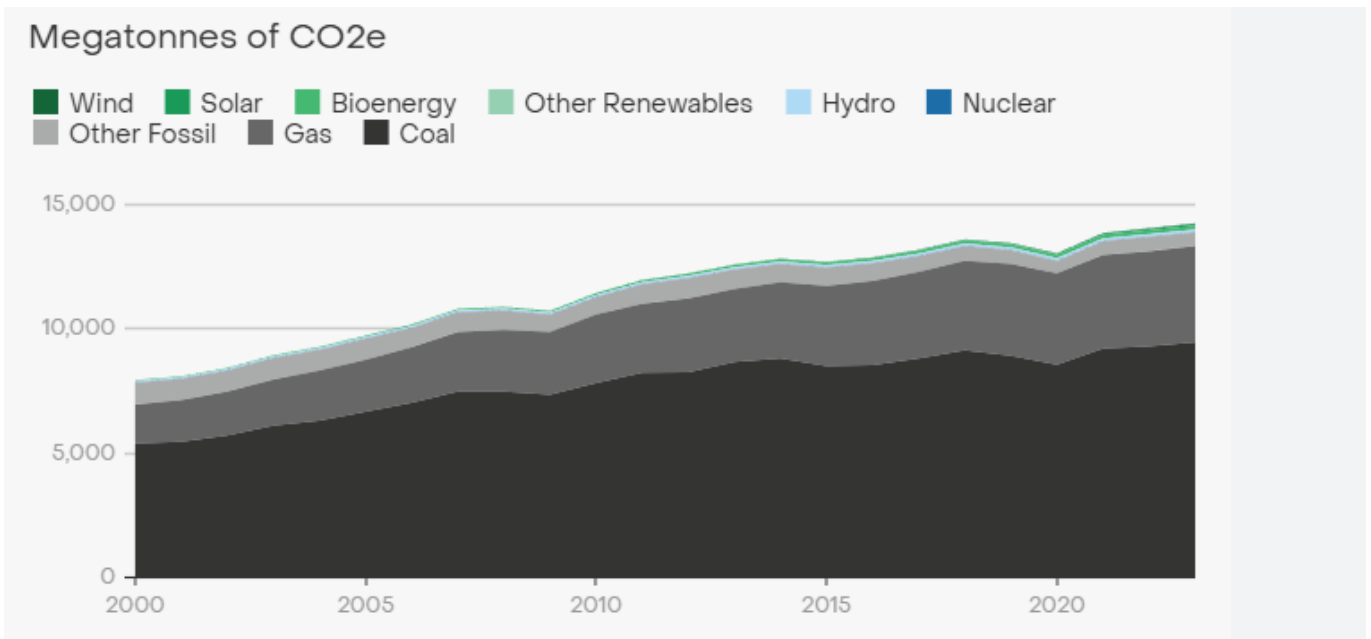
Theory of Change

The Need: We Need Clean Energy to Mitigate Climate Change

The planet has warmed by over 1.2°C on average since pre-industrial times¹, largely driven by carbon emissions from burning fossil fuels to generate electricity and heat.² Climate change is not a future problem: even at 1.2°C of warming, glaciers are shrinking, sea level rise is accelerating, and heat waves are more intense.³ To mitigate the impacts of climate change, we need to rapidly reduce our emissions to reach Net Zero by 2050.

We believe the only way to achieve this goal is to end our reliance on fossil fuels and invest heavily in renewable energy. Renewable energy sources are available all around us: the sun, wind, waste, water, and heat from the Earth can provide sustainable, affordable, and reliable energy with few to no emissions.⁴ By increasing the supply of renewable energy, we can replace carbon-intensive energy sources and reduce greenhouse gas emissions from our energy system.

| Figure 1: Renewable Energy Sources Have Lower Emissions Than Fossil Fuels



Source: [Ember](#), Electricity Data Explorer (2024)

- [Our World in Data, CO₂ and Greenhouse Gas Emissions \(2023\)](#)
- [UN Environment Programme, Emissions Gap Report 2023: UN, Renewable energy – powering a safer future \(2024\)](#)
- [NASA, The Effects of Climate Change \(November 2024\)](#)
- [UN, Renewable energy – powering a safer future \(2024\)](#)

The importance of the energy transition is reflected in the priorities of the UN Sustainable Development Goals (SDGs), which will require significant investment into renewable infrastructure to help meet these goals.

Figure 2: Key SDGs for Renewable Infrastructure



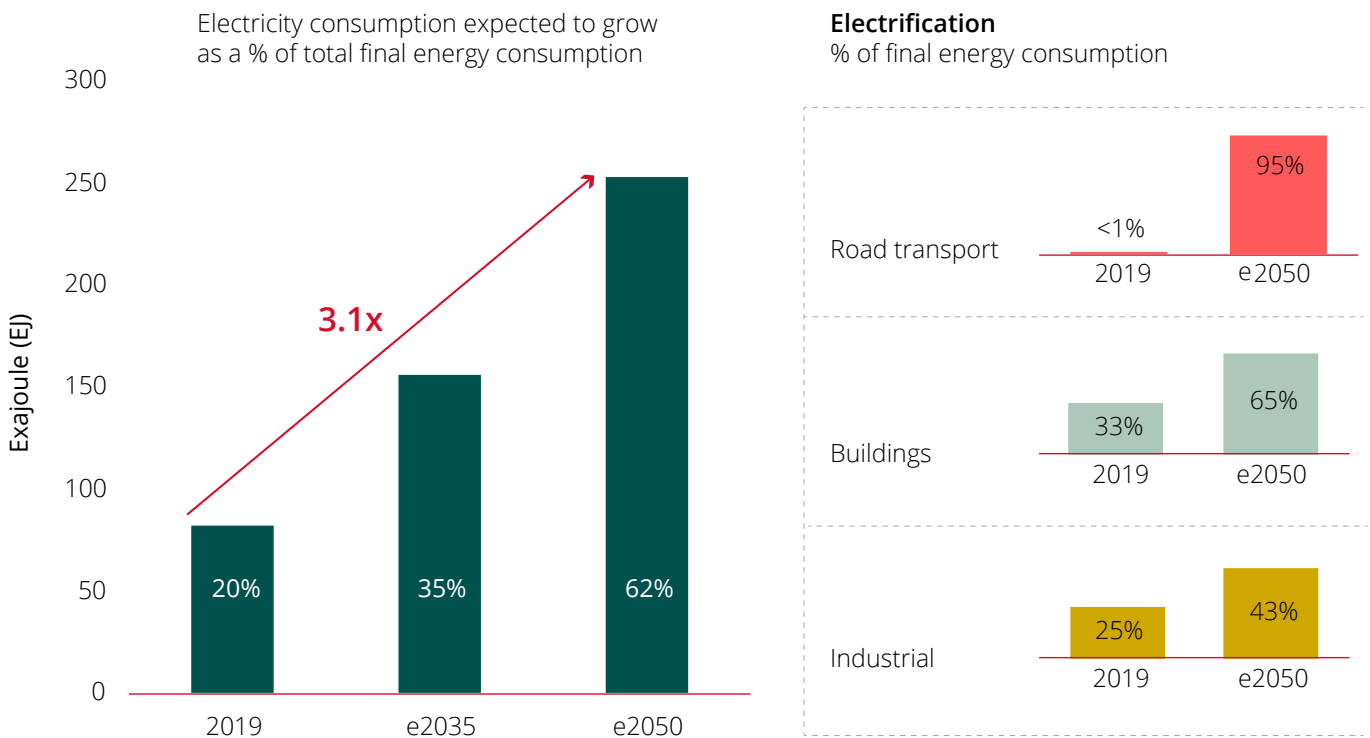
Source: UN; Redwheel, (2024)

The scale of the challenge is immense, but not insurmountable: to reach net zero emissions by 2050, BNEF estimates that investment in the energy transition will need to average nearly 5 trillion USD annually to 2030. While global investment in the energy transition reached 1.8 trillion USD in 2023, multiples of this are needed to transition to the low-carbon energy sources of the future.⁵

The Opportunity: Our Energy Systems Can Drive Change

Deep structural transformation towards emissions reduction is well underway, driven by corporate targets and national policies. As our economy electrifies across key areas like transportation, heating, industry, and digital applications, demand for electricity will continue to grow.⁶ At the same time, national and corporate emissions reduction targets rely on accessible low-carbon electricity.

Figure 3: Electricity Gains Market Share



Source: BNEF New Energy Outlook (2022)

5 [Bloomberg NEF, Global Clean Energy Investment Jumps 17%, Hits \\$1.8 Trillion in 2023, According to BloombergNEF Report \(January 2024\)](#)

6 [IEA, Electricity 2024, Analysis and forecast to 2026, \(May 2024\)](#)

Thus, the decarbonisation of energy sources is the lynchpin of the energy transition in our opinion: we must provide low-carbon electricity to meet growing demand. We believe that these trends represent a global growth opportunity: companies that develop, own, and operate renewable energy are well-placed to outperform during the energy transition.

How we do it: The Global Renewables Infrastructure Strategy

Our Global Renewables Infrastructure strategy invests in these companies that are gaining market share as economies and companies transition away from fossil fuel to renewable energy sources.

In many markets, the businesses and assets the team invests in are regulated or contracted, providing a good degree of predictability for cash flows. This visibility can extend from a few years to twenty years. Given the strategic importance of the renewable sector, there is no indication this operating framework will change, especially in a context where significantly more investment by the private sector is required going forward.

As such, we believe the portfolio consists of companies that grow faster than the market with predictable cash flows, a combination that we expect to provide attractive absolute and risk-adjusted returns over time.

Each of these opportunities exists under our Electrification theme:

Electrification

We believe the power sector is undergoing a profound transformation driven by the decarbonisation and electrification of energy demand. Utilities are at the forefront of this multidecade transition. By adapting and, in many cases, substantially overhauling their business models to accommodate new greener technologies and decentralised power sources, utilities should be bound to be major beneficiaries of secular growth and attractive returns on significant capital investments.

These investments promote:

- Replacement of coal and other fossil fuel generating plants with renewables.
- Reduction in GHG and other pollutants.
- Providing cheap, clean, and abundant electricity to consumers and industry.

03

Setting up for Success

HOW WE MEASURE SUCCESS IN THE ECOFIN GLOBAL RENEWABLES INFRASTRUCTURE STRATEGY

Thematic Focus

The Ecofin Global Renewables Infrastructure Strategy focuses on one main investment theme – electrification – by investing 80% of NAV in listed companies that develop, own and operate low-carbon power generation assets and ancillaries. It focuses on companies that are aiming to gain market share as economies and companies transition away from traditional fossil fuels to renewable energy sources.

Sustainable Investments approach

The Ecofin Global Renewables Infrastructure Strategy is focused on return generation by investing in companies that are aligned to positive environmental outcomes, disclosing under Article 9 of the SFDR regime with a minimum of 80% of investments in 'sustainable investments'.

Key to this, in our view, is measuring and demonstrating that relevant investee companies in the portfolio meet the definition of 'sustainable investment', defined by Redwheel as companies that demonstrably contribute positively to environmental and / or social objectives primarily through its products and services.

We consider the UN Sustainable Development Goals are our 'true north' for assessing this contribution and specifically target a range of environmental SDGs in this strategy including SDG 7, 9 and 11. We set a minimum threshold

of 35% revenues aligned to SDGs for investee companies to meet the bar for contribution as a 'sustainable investment'.

In line with the approach set out under SFDR, sustainable investments should also do no significant harm to established European environmental and or social objectives and follow 'good governance' practices. Redwheel's approach to assessing 'good governance' is set out within the Redwheel Stewardship Policy.

What measurement looks like in practice

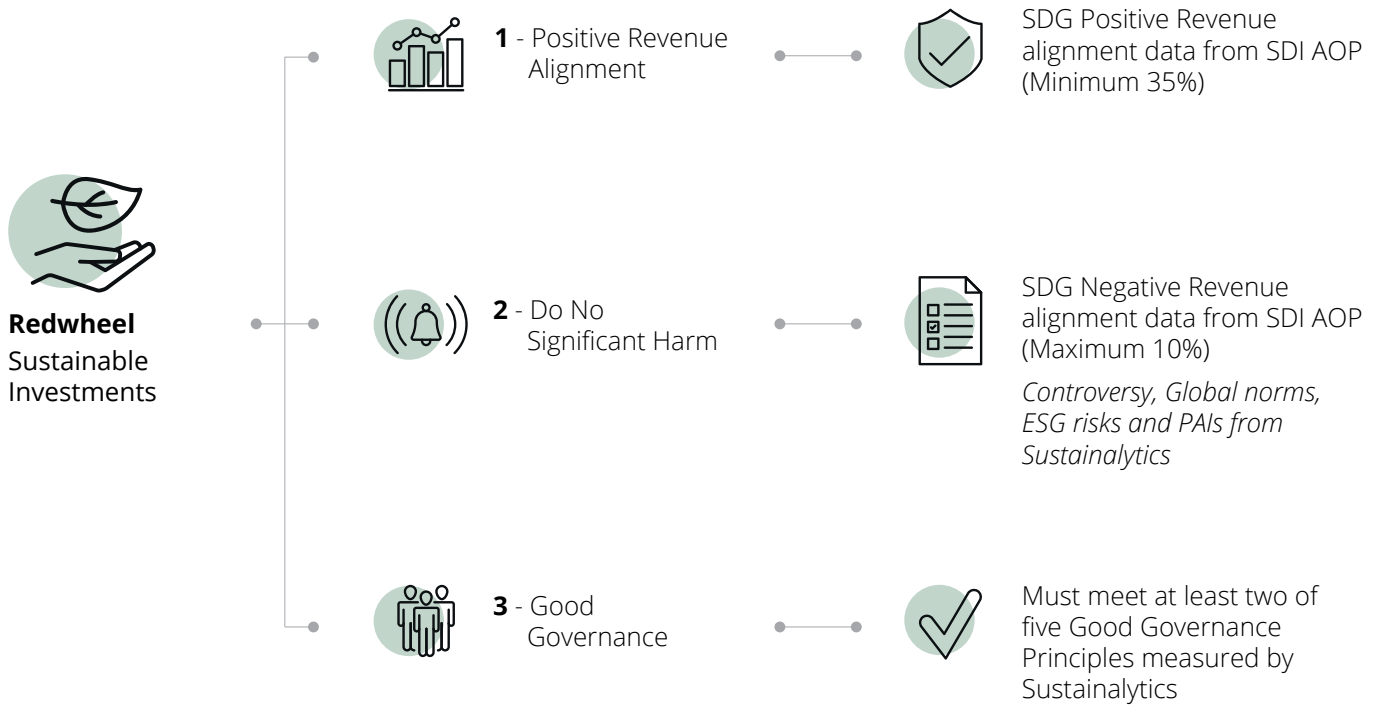
When assessing positive revenues, we start with SDG-aligned revenue data from [SDI Asset Owner Platform](#), which was chosen by Redwheel following extensive research in the market for SDG aligned data. SDI AOP's commitment to transparency, rigor and asset owner focus aligns with the Redwheel approach to sustainability so is a natural partner for us. The data provides estimated revenue alignment to SDGs in percentage of total revenue form.

SDI AOP is also used in checking for harm, where we set a threshold of 10% maximum negative revenue alignment to the SDGs.

Of course, there are occasions where we may disagree with the revenue alignment from SDI AOP e.g. when we have more recent data, where there are legitimate philosophical or methodological differences of view.

In these cases, we present a case for the potential investee company to be considered

Figure 4: Redwheel Sustainable Investment Approach



to the Sustainable Investments Working Group chaired by the Head of Sustainability Strategy, Governance and Policy supported by members from Greenwheel and the Product team. Debate is a core part of this process, and the Group fosters an environment of collegiate, robust discussion that we consider positive and additive to our thinking in this space.

Beyond SDG revenue alignment, we use Sustainalytics data for assessing other potential harms, including global norms (e.g. we would not hold a company that was UNGC non-compliant), principle adverse impacts (we measure investments in companies without carbon emission reduction initiatives, lack of human rights policy and board gender diversity) and ESG risk exposure of potential investee companies.

Beyond Sustainable Investments

Companies in the portfolio must also have at least 10% lower power generation Scope 1 CO₂ emissions than peers in the local grids of

generation sources measured using data from Carbon Analytics. We also track and report generation from renewable energy and tonnes of CO₂ emitted per 1 million USD invested through our third-party provider Carbon Analytics.

Key Performance Indicators for Ecofin Renewables Infrastructure

In addition to revenue alignment and thematic alignment, we also identify KPIs in the strategy based on outcomes data that investee companies provide publicly.

This year, we identified avoided emissions were well disclosed by investee companies for the strategy.

04

Thematic Research

Electrification

The global economy is undergoing a profound, multidecadal transformation towards electrification, driven by both a secular increase in energy demand and a rapid evolution towards lower cost, cleaner electricity from renewables. We believe these changes in electricity markets make for an exciting investment opportunity.

Today, electricity represents about 20% of final energy consumption⁷. However, as shown in Figure 3, many estimates suggest it could account for more than 50% by 2050 as electrification is more widely adopted across transportation, heating, and industry. In the short term, forecasts are even more dramatic: the IEA expects global electricity demand to rise by an average of 3.4% annually through 2026, a projection that is likely to be revised upwards.⁸

This demand growth is driven by ongoing electrification across transport, buildings, and industry, expanding demand sources like data centres, and the energy transition towards low-carbon renewable energy.

Transportation, Buildings, and Industry

Electrification enables us to reduce our final energy demand because electric technologies are typically significantly more efficient than fossil fuel-based alternatives.⁷ For example, the typical gasoline-fuelled car wastes around 80% of the energy it gets from its gas tank. In contrast, a typical electric vehicle (EV) tends to lose only around 11% of the energy it gets from charging.⁹

In recent years, more and more consumer energy end-uses have become electrified.⁷ For example, demand for electric vehicles (EVs) and heat pumps is increasing, often driven by strong policy support.¹⁰ These solutions are expected to have an impact on the electrical load in the near term, increasing demand for electricity across developed economies and key emerging economies, such as China.⁷

Similarly, industries are electrifying manufacturing processes that once relied on the combustion of fossil fuels to benefit from the lower costs and increased efficiency

7 [IEA, Energy system, Electricity \(July 2023\)](#)

8 [Grid Strategies, The Era of Flat Power is Over \(December 2023\); IEA, Electricity 2024, Analysis and forecast to 2026, \(May 2024\)](#)

9 [Climate Connections, Electric vehicles use half the energy of gas-powered vehicles \(January 2024\)](#)

10 [European Commission, REPowerEU \(December 2024\)](#)



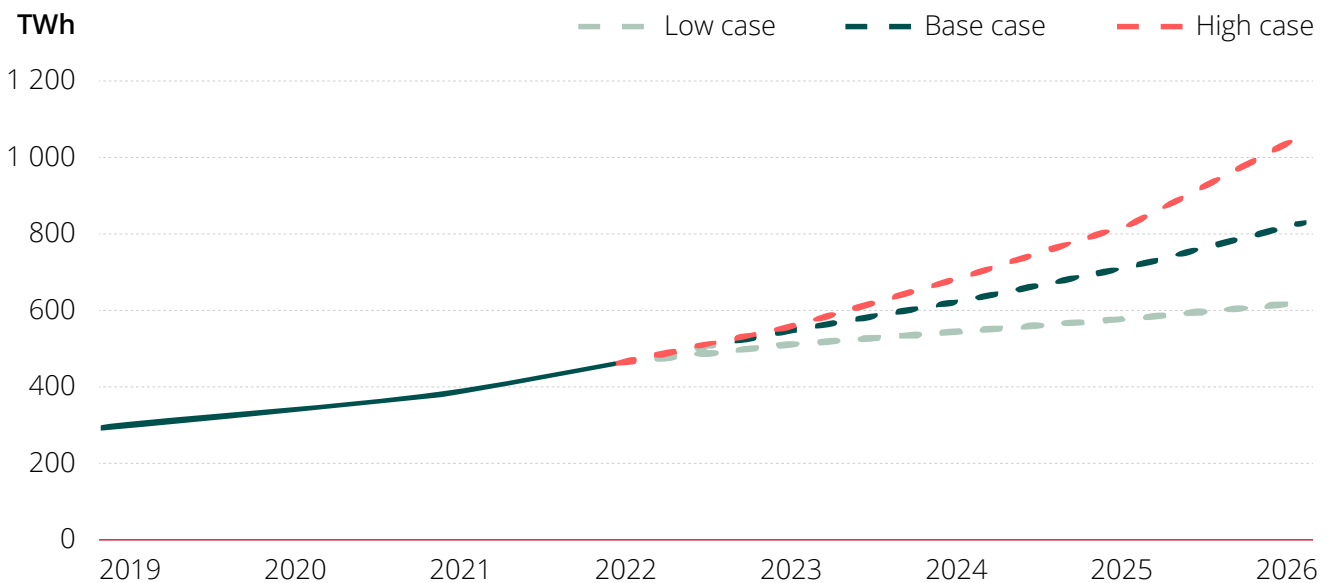
associated with electrification.¹¹ More than 60% of industrial energy needs can be directly electrified today using technologies like heat pumps and electric arc furnaces.¹² This represents a massive source of demand for electricity as companies move to protect themselves from fossil fuel price shocks, as well as achieve their corporate decarbonisation targets.¹³

Further, the onshoring of manufacturing in the U.S. is likely to prompt further demand for electricity. Geopolitical developments and resulting legislation, like the CHIPS Act, are aimed at accelerating reindustrialisation in the US.¹⁴ This trend is likely to significantly increase demand for electricity at specific locations.¹⁵ For example, the U.S. state of Georgia projects that its demand for industrial power will surge to 17 times its current needs over the next decade.¹⁶

Data Centres and Technology

Electricity does not only fuel industry: it also powers the information economy. Data centres are emblematic of our wider economy's trend towards electrification. Emissions associated with data operations have only grown modestly since 2010, despite a rapid increase in demand for digital services, largely due to efficiency improvements holding electricity demand stable, massive renewable energy purchases by information, communications, and technology (ICT) companies, and the broader decarbonisation of electricity grids in many regions.¹⁷

Figure 5: Global Electricity Demand from Data Centre, AI, and Cryptocurrencies



Source: IEA (2024). / Graphic recreated by Redwheel

The information shown above is for illustrative purposes only and is not intended to be, and should not be interpreted as, recommendations or advice. Forecasts and estimates are based upon subjective assumptions about circumstances and events that may not yet have taken place and may never do so.

11 [McKinsey & Company, Unlocking opportunities from industrial electrification \(July 2022\)](#)

12 [Agora Industry, Direct electrification of industrial process heat \(June 2024\)](#)

13 [E3G, An electrification action plan to secure EU industry's future towards a supportive policy framework \(October 2024\); Agora Industry, Direct electrification of industrial process heat \(June 2024\)](#)

14 [FTI Consulting, The Return of Manufacturing: North America's Reshoring Movement \(October 2024\)](#)

15 [EPRI, Products \(December 2024\)](#)

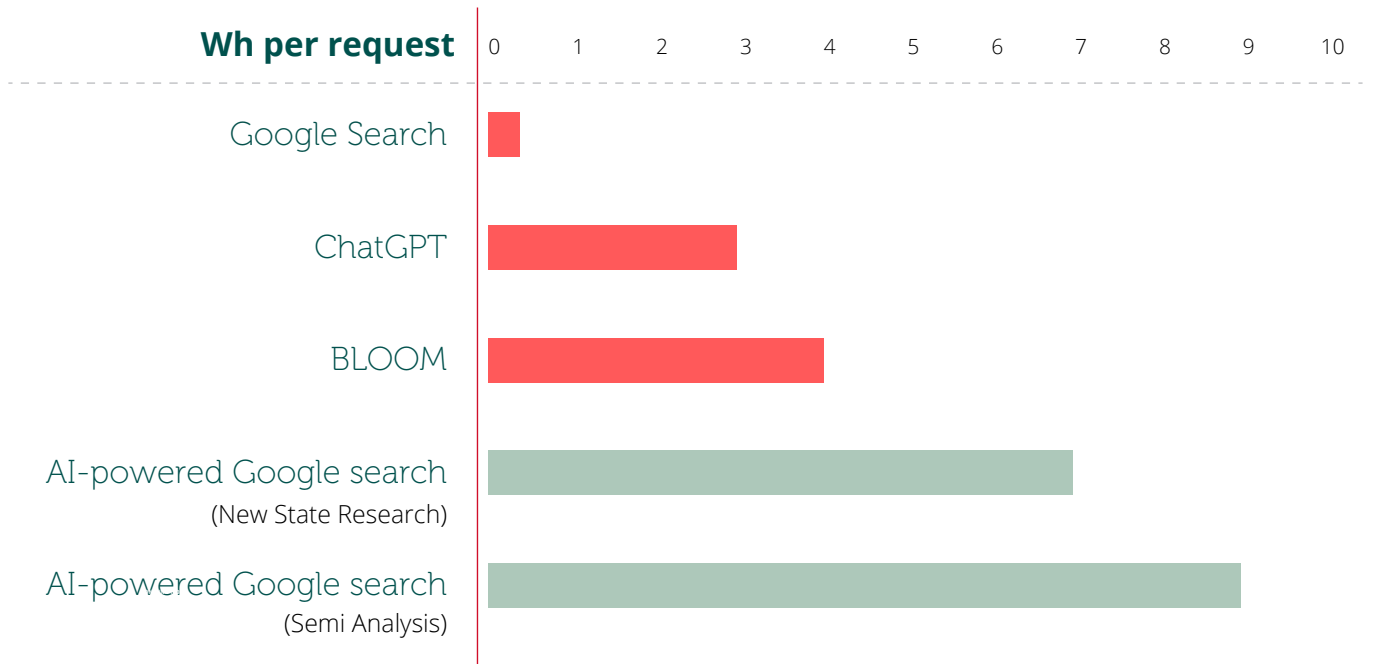
16 [The Washington Post, Amid explosive demand, America is running out of power \(March 2024\)](#)

17 [IEA, Data Centers and Data Transmission Networks \(July 2023\)](#)

However, the rapid growth of new data centres is expected to place significant pressure on local grids. The energy required for emerging technologies like generative artificial intelligence (AI), machine learning, and cryptocurrencies is

likely to outpace any additional energy efficiency improvements. Therefore, we expect data centres and technology to increasingly drive demand for green electrification.

Figure 6: Estimates of energy use by AI-powered web searches



Source: Digiconomist, Alex de Vries; company reports; graphic created by Redwheel.

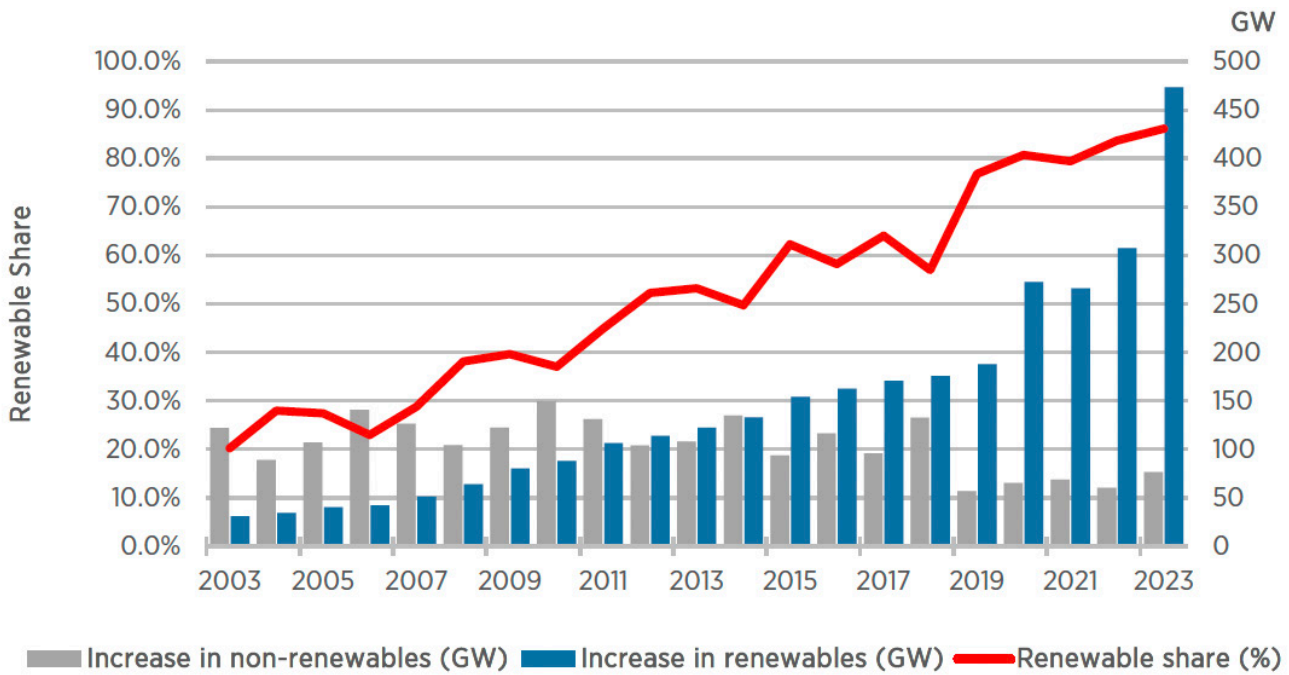
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Decarbonisation and Electrification

We see large-scale decarbonisation as a significant tailwind for electrification. Increasingly ambitious climate and emissions targets from governments and companies depend on the acceleration of both electrification technologies and renewable energy sources. As discussed, the electrification of end-uses is increasing demand for power. As renewables benefit from economies of scale and policy support, they continue to become cheaper and more efficient than fossil fuels.

Thus, it is unsurprising that renewables have become the dominant form of new electricity capacity to meet growing demand. Over 80% of all power supply growth globally now is renewables-based. What is remarkable is that a decade ago that number was less than 10%.

Figure 7: Renewable Share of Annual Power Capacity Expansion



Source: © IRENA (2024).

The information shown above is for illustrative purposes only and is not intended to be, and should not be interpreted as, recommendations or advice.

Often, government policies aimed at emissions reductions also provide subsidies to promote clean energy adoption. New renewable energy products also increase electricity supply and are often intermittent in nature. Thus, investment in reliability, transmission and distribution, and storage solutions is also crucial.

Bringing it all together: Global Renewable Infrastructure

We believe that the transformation of global energy systems toward electrification powered by renewables and other forms of low

carbon energy makes an exciting investment opportunity. The electrification of our economy is critical for our low-carbon, more circular future. As demand for electricity increases, low-cost renewables effectively decarbonise everything they touch. Within our Global Renewables Infrastructure strategy, we seek companies that are global leaders in developing, owning, and operating renewable facilities. We believe that these companies are likely to have a competitive edge that enables them to benefit from increasing demand for the cheaper, more efficient renewables of the future.



05

Measuring Sustainable Outcomes and Company Impact

The Global Renewables Infrastructure strategy is firmly focused on investing in companies with products and services that contribute to sustainable outcomes around our key investment themes. This section provides an overview of these efforts at a portfolio level in terms of both contribution by sustainable development goals and alignment to investment themes, as well as company-specific outcomes as reported by our holdings.

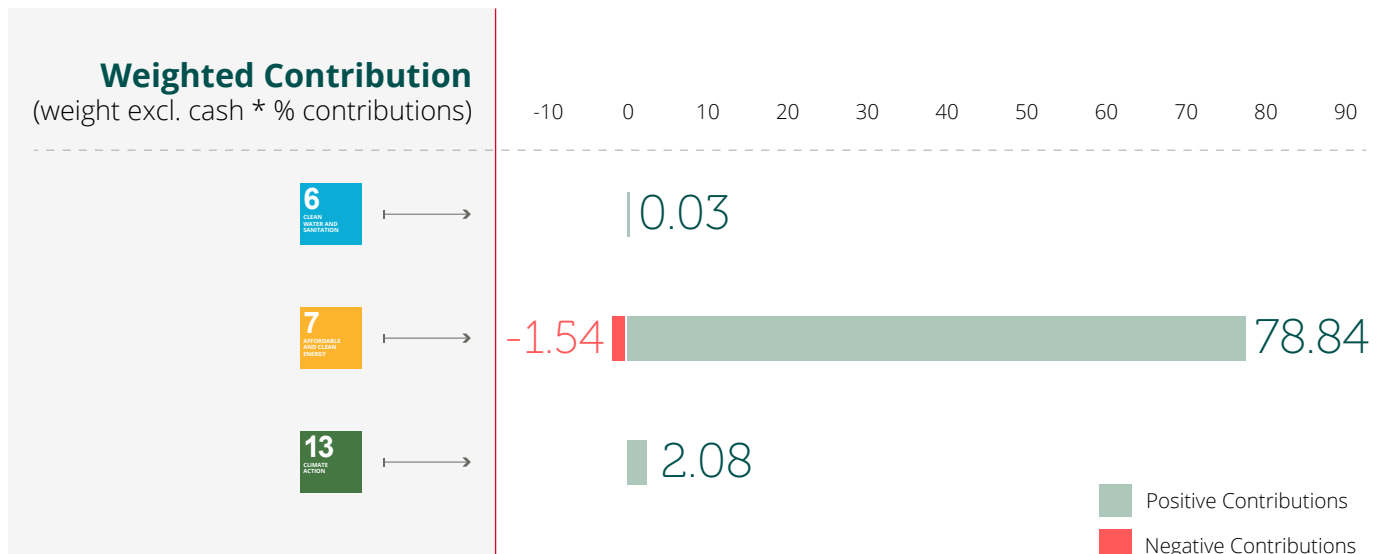
Information on operational and / or ESG risks associated with this strategy are available in factsheets and regular reporting –

please reach out to your contact at Redwheel for more information.

94.62%

Of the portfolio in sustainable investments as at 31 December 2024

Figure 8: Sustainable Contribution by SDG*:

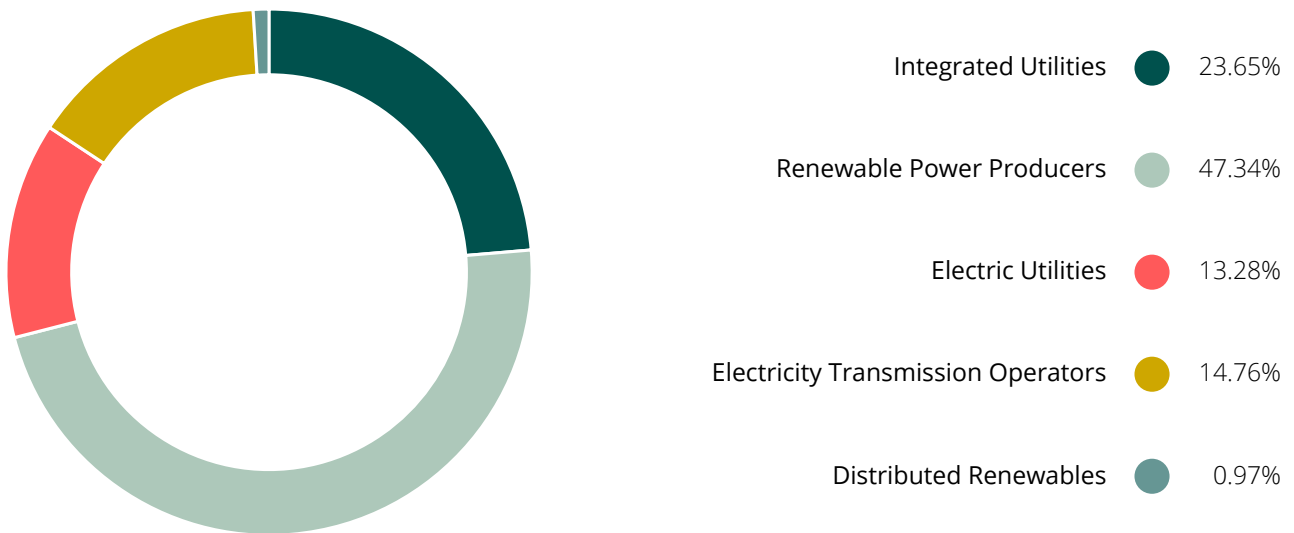


Source: Redwheel and SDI AOP (as at 31 December 2024)

* Contribution to Sustainable Development Goals is measured primarily through revenue alignment except in the case of financial inclusion where loan book exposure is utilised and in the case of renewable energy production wherein proportion of generation is used.

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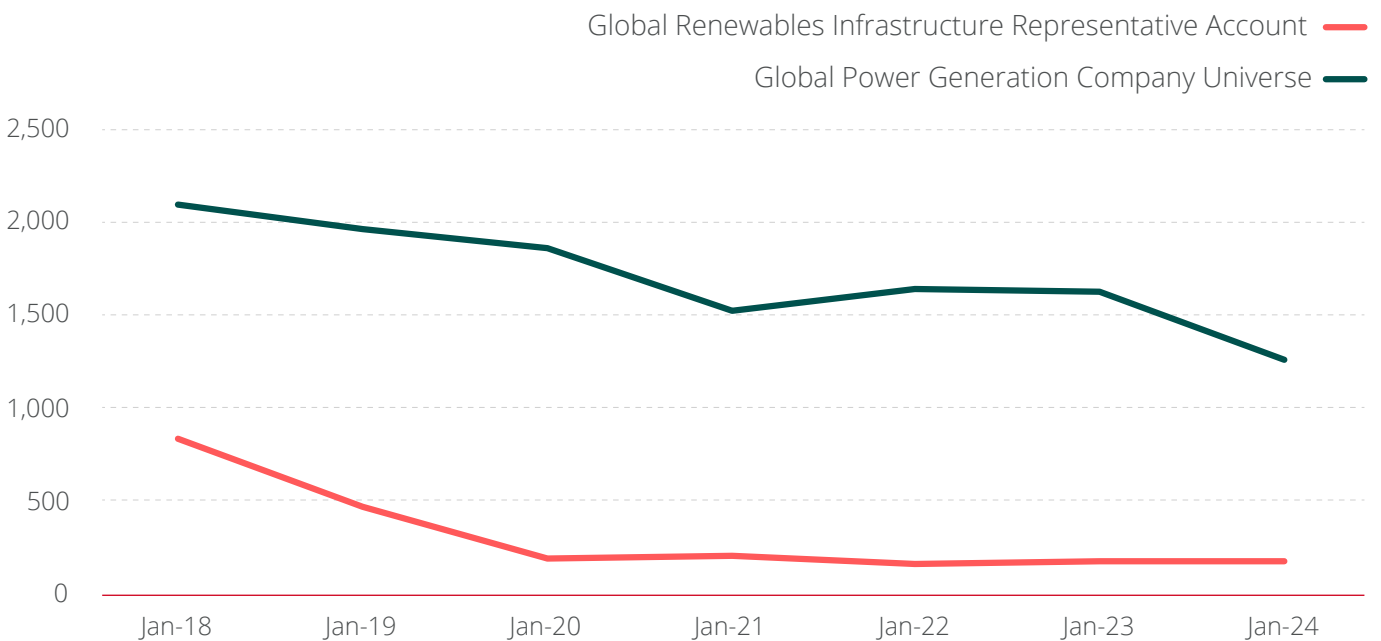
Figure 9: Portfolio Breakdown by Electrification Sub-Themes



The information shown reflects portfolio holdings as at 31 December 2024. For further information on themes and sub-themes please refer to the Setting up for Success and Theory of Change sections of this report. The constituents within the Themes presented within this report have been selected and determined by the Investment Team without independent governance and are subject to change without notice. The Themes presented are for illustrative purposes only and should not be relied upon.

The information shown above is for illustrative purposes only and is not intended to be, and should not be interpreted as, recommendations or advice.

Figure 10: Total CO₂ Emissions per 1 million USD invested



The computation of the portfolio and global power companies' universe Scope 1 CO₂ emission intensity is determined by aggregating the emissions of each company in the portfolio in proportion to the portfolio ownership of the companies. The underlying Scope 1 CO₂ emission data is provided by CarbonAnalytics. Calculations are Redwheel as at 31 December 2024. The global power companies' universe excludes companies with only a China A-share listing.

Forecasts and estimates are based upon subjective assumptions about circumstances and events that may not yet have taken place and may never do so.

Figure 11: Ecofin Global Renewables Infrastructure Strategy Holdings Energy Generation Mix



Source: Carbon Analytics (31 December 2024)

The information shown above is for illustrative purposes only and is not intended to be, and should not be interpreted as, recommendations or advice.

Global Renewables Infrastructure Strategy Company Impacts

Exelon Corporation

- 2.2 million metric tons of greenhouse gas emissions avoided through distributed solar.
- 1.4 million truck trips were avoided in 2023 thanks to smart meters and remote sensing.
- 9.8 million metric tons of CO₂e avoided in 2023 due to customer energy efficiency gains.
- 4 thousand metric tons of CO₂e avoided in 2023 by switching customers from oil / propane heating to natural gas.

[Exelon Sustainability Report 2023](#)

ReNew Energy Global plc Class A

- 16 million metric tons of CO₂e of greenhouse gases avoided in 2023.
- 360 thousand cubic metres of water saved in 2023.
- 0.6% of India's annual emissions mitigated in 2023.

[ReNew Energy, Annual Integrated Report FY 2023-24](#)

Enel SpA

- 86 metric tons of CO₂e avoided in 2023.

[Enel Sustainability Report 2023](#)

EDP-Energias de Portugal SA

- 25.8 metric tons of CO₂e avoided in 2023 through the production of electricity from renewable sources.
- 570 kilotons of CO₂e avoided through EDP installation of photovoltaic systems.
- 1 thousand kilotons of CO₂ emissions avoided through the installation of EDP sustainable services in 2023, totalling 12 metric tons since 2015.
- 268 thousand kilograms of CO₂ emissions were avoided by the Pulau Ubin Microgrid (solar PV and battery storage system), benefiting more than 30 households and businesses.
- 25 thousand kilotons of CO₂ were total avoided emissions.

[EDP 2023 Annual Integrated Report](#)

Orsted

- 2.8 million tonnes of CO₂e emissions were avoided from projects in operation.
- 3.1 million tonnes of CO₂e could potentially be avoided from projects under construction.

[Orsted Annual Report 2023](#)

NextEra Energy, Inc.

- 21 billion gallons of water were avoided from use in 2022 due to investments in water-free wind and solar energy.
- 189 million tons of CO₂ emissions have been avoided since 2001.

[NextEra Energy 2023 Sustainability Report](#)

Innergex Renewable Energy Inc.

- 2 million metric tonnes of CO₂ emissions avoided through the production of renewable energy in 2023.

[Innergex 2023 ESG Report](#)

Ormat Technologies, Inc.

- 2.2 million metric tons CO₂e were avoided in 2022.

[Ormat 2023 Annual Report](#)

EDP Renovaveis SA

- 20.4 metric tons of CO₂ emissions were avoided.

[EDPR Annual Report 2023](#)

NextEra Energy Partners LP

- 10.9 million tons of CO₂ were avoided in 2021.

[NextEra Energy 2022 Environmental, Social and Governance Report](#)

Avista Corporation

- 15 thousand tons of CO₂ emissions were avoided annually.

[Avista, 2023 Corporate Responsibility Report](#)

Edison International

- 1.2 million lower-income customers were provided electricity.

[Edison International, 2023 Sustainability Report](#)

Neoenergia SA

- 1.5 million metric tonnes of CO₂e were avoided in 2023.

[Neo Energia Annual Sustainability Report 2023](#)

Constellation Energy Corporation

- 124 million metric tons of CO₂e were avoided from carbon-free generation assets.

[Constellation 2023 Sustainability Report](#)

BKW AG

- 2.7 thousand metric tons of waste avoided through recovery efforts.
- 10 thousand metric tons of CO₂e were avoided in 2023.

[BKW Group Sustainability Report 2023;](#)
[BKW Group Annual Report 2023](#)

Terna S.p.A.

- 56 thousand tonnes of CO₂e were avoided from recycling / recovery of gases from 2021-2023.
- 89 kilometres of obsolete lines were removed, freeing up 299 hectares of land.

[Terna 2023 Annual Integrated Report](#)

Greencoat UK Wind Plc

- 1.9 million metric tonnes of CO₂ were avoided in 2023.
- 1.8 million households were powered in 2023.

[Greencoat UK Wind ESG Report 2023](#)

Clearway Energy, Inc. Class C

- 8.1 million metric tonnes of CO₂ were avoided.
- Enough clean energy was created to power almost 2 million homes.

[Clearway Energy 2023 ESG Report](#)

Xinyi Energy Holdings Limited

- The total sold electricity in 2022 is equivalent to reducing CO₂ emissions by approximately 2,637,000 tonnes.

[Xinyi Energy 2023 Company Report](#)

This data comes directly from investee companies for the latest available public reporting year, which we have not amended or altered. In the case of avoided emissions, we recognise the complexity of this metric and do not aggregate the reported figures to avoid inaccurate portfolio level reporting. We are working with Greenwheel and our external data partner SDI AOP to try to evolve how we measure and report avoided emissions in future and we hope to see improved reporting across impact metrics from our holdings over time.

The information in this section is based on a Representative Portfolio. Please see the disclaimer at the end of the presentation for further information.

06

Impact Case Studies

Clearway Energy, Inc.

The Company

Clearway Energy, Inc. is one of the largest owners of clean energy generation assets in the US.

SDG Alignment

We assess the company as having 70.75% of direct revenues aligned to SDG 7, as at 2024.

70.75%

Direct revenues aligned to SDG 7.



Company Impact Analysis

What is the challenge to solve?

The energy transition is needed to avoid the worst effects of climate change and support life as we know it on earth. Fundamental to this is the production and distribution of clean sources of energy to support economic activity and future growth.

Who is the target beneficiary?

GHG emission reductions from cleaner energy systems benefit society as a whole. Clearway Energy is focused on generating electricity, primarily from solar and wind, and battery storage across 27 states.

How is the company delivering impact?

The company's acceleration of capital spending and deployment of resources entirely in renewables and storage assets to lower emissions represents a unique opportunity for positive change. The company enters into long-term power purchase agreements with utilities and large users, ensuring the delivery of electricity that powers local economies.

These contracts allow Clearway Energy to obtain financing on reasonable terms and underwrite substantial capital budgets.

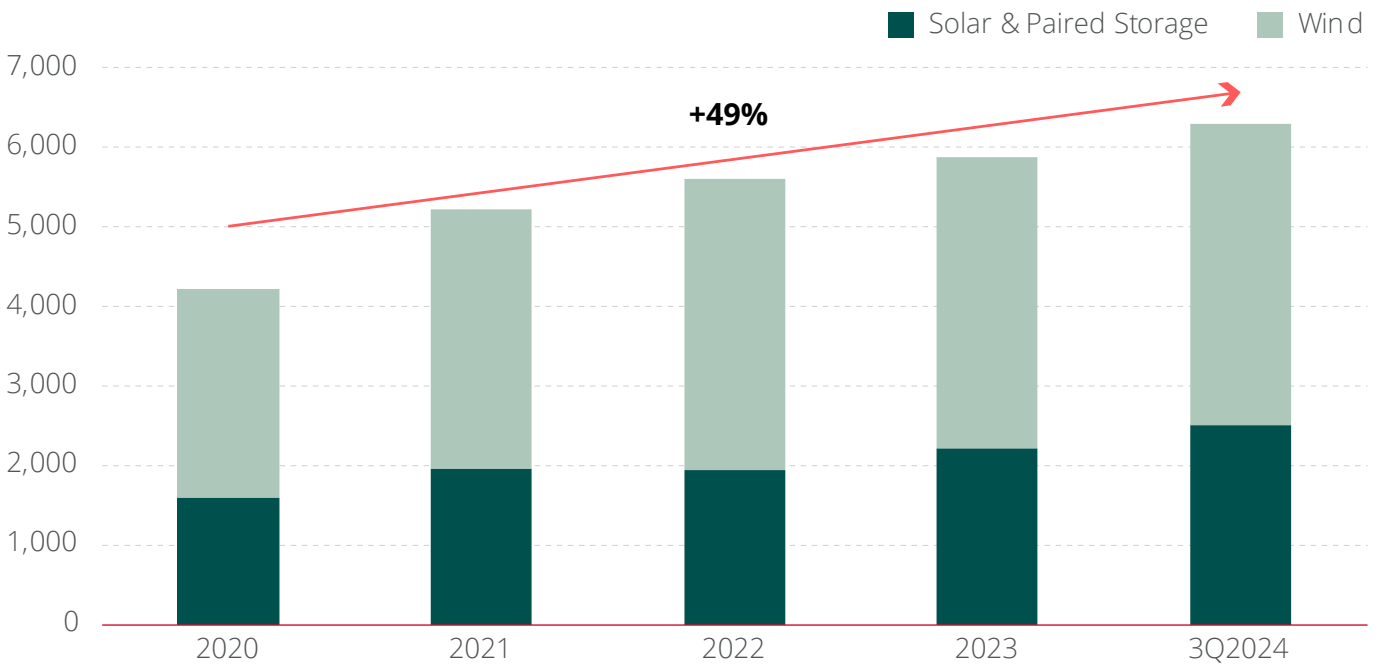
How much impact is being delivered?

Between 2020 and the 3rd quarter of 2024, Clearway Energy has increased its solar and batteries capacity by 57% and its wind capacity by 44%, in total adding over 2GW of renewables capacity.¹⁹ As such, in less than 4 years, Clearway Energy has increased its renewables generation capacity by 49%.

Looking ahead, Clearway Energy has committed to add 1.3GW of renewables generation by the end of 2025, representing a 20% increase compared to the generation capacity at the end of the 3rd quarter 2024.

Clearway Energy sources renewables projects from its parent company, the Clearway Group as well as other developers. The Clearway Group alone has increased its renewables development pipeline from 10GW to 30GW over the past 4 years, providing a growing opportunity for Clearway Energy to help fund renewables growth through the acquisition of some of these projects.

Figure 12: Clearway Energy Renewables Generation Capacity (MW)



Source: [Clearway Energy, Presentations and Webcasts](#) (2024)

The information shown above is for illustrative purposes only and is not intended to be, and should not be interpreted as, recommendations or advice.

¹⁹ [Clearway Energy, Presentations & Webcasts \(1 March 2021 & 30 October 2024\)](#)

Constellation Energy

The Company

Constellation Energy is the largest nuclear power owner and operator in North America and is the largest producer of carbon-free electricity in the United States.

SDG Alignment

Approximately 90% of the company's total generation qualifies as sustainable, aligned to SDG 7.²⁰

In 2022, the company committed to further decarbonisation on Scope 1-2 emissions, namely that 95% of owned-power generation will be carbon free by 2030 and 100% carbon free by 2040; and also that Scope 2 emissions would achieve a 65% reduction (vs 2020 baseline) by 2030 and 100% reduction by 2040 (and for any remaining Scope 1-2 emissions at that time, the procurement of selected offsets).²¹ We believe these commitments place Constellation at the highest level of target attainment in the power industry for any major operator / owner.

90%

Approximately aligned with SDG 7



SDG 7.2 – By 2030, increase substantially the share of the global energy mix.

Company Impact Analysis

What is the challenge to solve?

The energy transition against a backdrop of rising demand for energy requires clean, affordable energy.

Who is the target beneficiary?

Greenhouse gas (GHG) reduction to limit the effects of climate change benefit society at large. In the case of Constellation specifically, their clean energy is a product used throughout business activities enabling companies to decarbonise their Scope 2-3 emissions.

In addition to providing a better clean power option vs the benchmark for current use, the possibility of greater substitution and adoption by companies in energy intensive capital equipment offers an additional benefit and opportunity to overall climate mitigation.

How is the company delivering impact?

With over 33,000MW of power generation capacity and two million direct customers across the US, the company is responsible for roughly 10% of all decarbonised power feeding into the power grid annually.²²

20 SDI AOP and Redwheel as at 2024

21 [Constellation Energy Sustainability Report \(2024\)](#)

22 Redwheel; [EDP, Annual Integrated Report \(2023\)](#)

Constellation also plans to expand its fleet with recommissioning of retired nuclear units, uprating projects to expand existing units and adding additional power resources opportunistically, to continue to provide customers with rapidly growing demand for decarbonised, baseload electricity resources.

Key Risks

Constellation also operates a fleet of natural gas power generation assets. The nature of these assets' dynamic load-following and reliable capacity profile allow them to be used to support large clean-power assets, as a complement, but they have meaningful emissions.

In fact in 2023, Scope 1, 2 and 3 emissions all increased vs 2022, which relates to greater capacity factor and utilisation of gas plants, which itself relates to electricity demand accelerating vs prior years due to several key economic trends in North America (including data centre growth).²³

These increases in gas fleet utilisation are likely to persist as electricity demand grows rapidly, so the key risk and opportunity for the company in this area involves changes in procurement of fuel, towards either blending decarbonised hydrogen mix, or increasing the mix of renewable natural gas (generated from recycling evacuated methane streams from agriculture or industry into processed pipeline-grade natural gas).

Energias de Portugal

The Company

Energias de Portugal (now known solely as EDP, SA) is a leading global integrated utility company actively engaged in many facets of the energy transition.

EDP is one of the largest renewable developers, operators and owners of infrastructure worldwide and has more than 9 million

customers focused across five regions: Iberia, Europe, North America, South America and Asia Pacific regions.

SDG Alignment

We estimate that approximately 85% of EDP's generation output is currently aligned with SDG 7.²³

85%

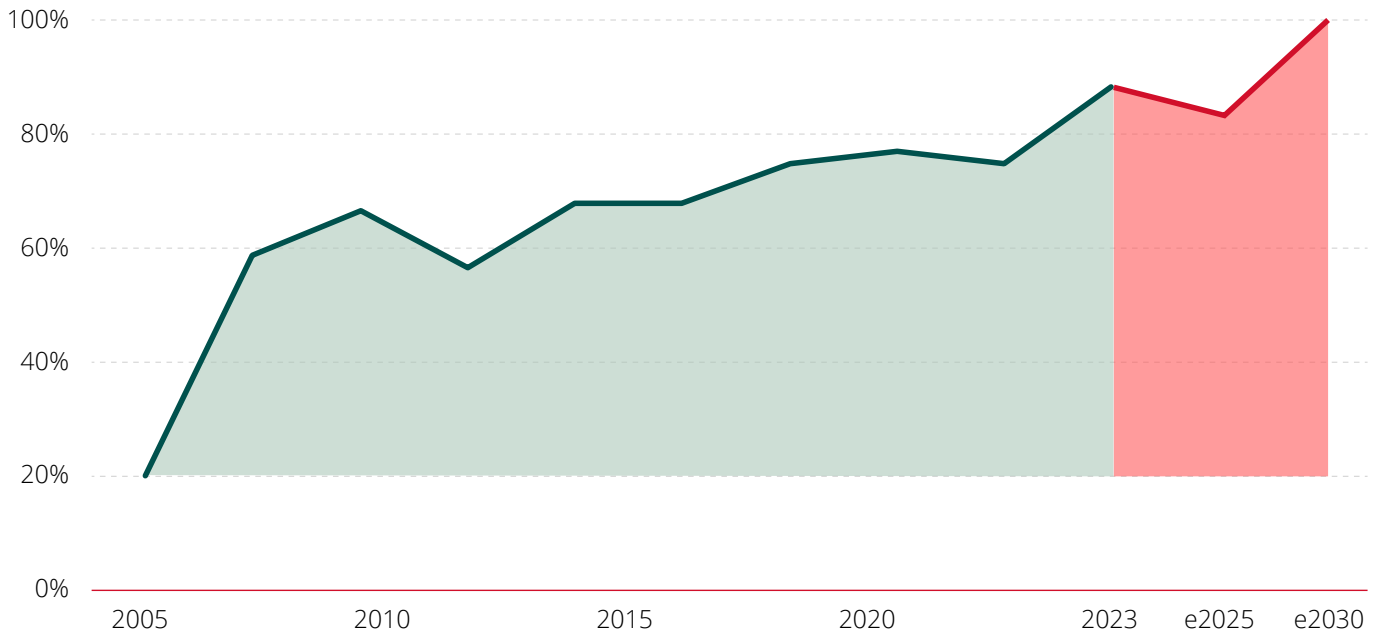
Currently aligned with SDG 7



We estimate that approximately 85% of EDP's generation output is currently aligned with SDG 7

²³ Redwheel; [EDP, Annual Integrated Report \(2023\)](#)

Figure 13: EDP, SA Renewable Energy Generation (%)



Source: EDP (as of 2024) Graphic created by Redwheel.

Forecasts and estimates are based upon subjective assumptions about circumstances and events that may not yet have taken place and may never do so.

Company Impact Analysis

What is the challenge to solve?

Climate change poses a real and urgent challenge to humanity. Developing low carbon energy infrastructure is crucial to fighting this challenge.

For EDP specifically, there are two major focal points when it comes to clean infrastructure development. The first is how to de-intensify carbon emissions on the grids in which they operate. This requires a significant build-out of renewable and transmission-related power infrastructure projects.

The second challenge is how to improve the quality of the grid (both in accessibility / reliability and cost) to attract key energy intensive activities to substitute electricity usage away from existing direct fossil fuel consumption.

Who is the target beneficiary?

Reductions in greenhouse gas emissions benefits the overall global effort to limit temperature change to 1.5-2.0 degrees. For EDP's customers, their products and output may be seen to greatly benefit their customers by facilitating decarbonisation efforts inside their operations, and by reducing carbon footprints of their products on an ongoing basis. Lastly, continuous development of a clean electricity network allows all devices that attach to that grid to keep improving their own emission profile with no additional effort.

How is the company delivering impact?

EDP is active in developing both onshore and offshore wind projects, solar, battery storage as well as considering ways to decarbonise their existing CCGT assets in the future.

The company has a commitment to capital expenditures of €25B over the next 4 years relating to further decarbonising the electricity networks in which it operates. This marks a rapid acceleration from trend in past decade.²⁴

Key Risks

EDP operates in many jurisdictions where regulatory policy changes can be impacted by political changes and shifts in commitment to decarbonisation policies and enforcement.


















While long-term contracts or regulated frameworks (such as utility distribution networks) are underpinned by strong legal frameworks, forward-looking activity could be disrupted if incentives or market design shifts alter the competitive advantage of renewable or other decarbonised assets vs traditional fossil fuels.



Forecasts and estimates are based upon subjective assumptions about circumstances and events that may not yet have taken place and may never do so.

²⁴ [EDP Annual Integrated Report 2023](#)

Glossary

Term	Definition
Greenhouse Gas Protocol Scope 1 Emissions	Direct emissions that are owned or controlled company sources.
Greenhouse Gas Protocol Scope 2 Emissions	Indirect emissions that are produced from the generation of purchased energy.
Greenhouse Gas Protocol Scope 3 Emissions	Indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.
 Sustainable Development Goal 1	End poverty in all its forms.
 Sustainable Development Goal 2	End hunger, achieve food security, improved nutrition and promote sustainable agriculture.
 Sustainable Development Goal 3	Ensure healthy lives and promote well-being for all ages.
 Sustainable Development Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
 Sustainable Development Goal 5	Achieve gender equality and empower all women and girls.
 Sustainable Development Goal 6	Ensure availability and sustainable management of water and sanitation for all.
 Sustainable Development Goal 7	Ensure access to affordable, reliable, sustainable, and modern energy for all.
 Sustainable Development Goal 8	Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.
 Sustainable Development Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
 Sustainable Development Goal 10	Reduce inequality within and among countries.
 Sustainable Development Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable.
 Sustainable Development Goal 12	Ensure sustainable consumption and production patterns.
 Sustainable Development Goal 13	Take urgent action to combat climate change and its impacts.
 Sustainable Development Goal 14	Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.
 Sustainable Development Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss.
 Sustainable Development Goal 16	Promote peaceful and inclusive societies for sustainable development provide access to justice for all, and build effective, accountable and inclusive institutions at all levels.
 Sustainable Development Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development.

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Portfolio characteristics, top ten holdings, sector allocation, country allocation, attribution, volatility, yield, dividend and ESG information are based on a representative portfolio, which is Ecofin Global Renewables Infrastructure UCITS Fund, a sub-fund of Gateway UCITS Fund Plc, which is an umbrella investment company with segregated liability between funds authorised by the Central Bank of Ireland as a UCITS pursuant to the UCITS Regulations. Please refer to the Representative Portfolio's Fund Documents including the Prospectus, KIID & KID for more information.

Redwheel believes that precisely this account within the strategy most closely reflects the current portfolio management style for the Ecofin Global Renewables Infrastructure Strategy. Portfolio holdings are subject to change without notice. The information shown is for illustrative purposes only and is not intended to be, and should not be interpreted as, recommendations or advice.

Impact Report

Ecofin Global Renewables Infrastructure Strategy

February 2025

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Please contact us if you have any general questions or would like to discuss any of our strategies.

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