redwheel

Greenwheel Insights

Do company emissions impact shareholder returns? Evidence and implications

Paul Drummond

Climate and Environment Lead, Greenwheel

Executive Summary

- **Some studies have found that high-emission companies are associated with higher returns** to shareholders. They **claim this is due to a 'Carbon Premium'; outsized returns required by investors for bearing transition risk**.

- However, the **overall balance of evidence is very mixed**. Some studies find a *negative* connection, and some find no connection at all. In our view, **it's unlikely a systemic Carbon Premium exists**.

- These **differences are largely due to choices around emissions data, metrics, and general methodology**. The multitude of factors that influence shareholder expectations and returns, coupled with poor data, means that **trying to robustly detect a carbon premium is likely to be functionally impossible**.

- **Whether or not transition risk influences shareholders choices or returns, transition risk is undoubtedly real**. However, the form this risk takes – and its strength and immediacy – will vary between countries, sectors, and individual companies.

- **There is likely a 'tipping point' where Transition Risks move from *vague and distant*, to *clear and immediate*, or *realised***. The clearest instance of this is through the introduction of direct 'polluter pays' policies. Widespread and robust carbon pricing in Europe had a clearly negative impact on returns to high-carbon firms.

- **When this may happen, and its consequences, will vary firm by firm. Being prepared is crucial**. Transition risk through all three channels – policy, technology and changing preferences – is only likely to grow for exposed sectors. **Having a credible plan to deal with this risk is crucial** to maintain stability and shareholder value in the long-term.

- **This will be the case, in particular, for *technology* risk, as unlike policy and preferences, changes in this domain cannot be reversed**. Policies and preferences inherently frequently change, often in different directions. **Once low carbon technologies are available and become competitive, the risk** to high-carbon counterparts – and the companies that use and produce them - **becomes permanent**.

CONTACT US

Please contact us if you would like to learn more about our strategies.

invest@redwheel.com | www.redwheel.com

redwheel

John Teahan

Portfolio Manager, UK & Global Climate Engagement Funds

PREFACE: The Investor Need

"To think we can short-cut research by assuming a particular relationship between carbon intensive companies and their returns to shareholders is misguided. The transition is much too complex for such a simple view. **Carbon intensive stocks individually face varying levels of transition risk, as well as transition opportunity**."

"The carbon emissions profile of a company is complex and extends from its own operations and through its value chain and customers. **Companies will have different exposures to regulatory, customer or investor pressure, which will vary over time and geography**. They have different decarbonisation pathways and abilities to pass on carbon costs. **They are also subject to a wide range of other dynamics that influence share prices and returns**. Therefore, **uncovering generalisable relationships between emissions and stock performance is fiendishly difficult, if such a relationship even exists**. Investors should be wary when presented with claims that a connection has been found and be mindful of the wider evidence base."

Background

A key question for investors concerned with decarbonising their portfolios is whether this is likely to suppress or enhance their returns.

A large body of literature has scrutinised the role of broad ESG factors on company and risk-adjusted returns, but studies that specifically examine empirical evidence on whether there is a connection between company CO_2 emissions and returns to shareholders – and if so, whether there are any clear drivers behind the connection - are relatively new.

They also find very varied, and often contradictory results. **This paper reviews the evidence to understand key findings to date, limitations in these analyses, and key implications for investors**.[I]

[I] This review includes only studies that examine the full connection between emissions and returns to stakeholders, and excludes the growing literature that looks at the link between a company's emissions and its selected fundamentals, such as ROA or Tobin's Q.

Influential studies find higher stock returns are linked with higher CO_2 emissions

Two recent and influential papers form the foundation of this relatively new field. Bolton and Kacperczyk (2021)[1] find that **stocks of US firms with higher total CO_2 emissions, and with growing emissions, produce higher returns**. This holds across Scope 1, Scope 2, and *upstream* Scope 3 emissions, and when controlling for other influences like company size and book-to-market ratio.

The same authors later expanded their analysis internationally and found that **the relationship holds across all sectors and most countries**.[2] They also find returns are greater for companies with higher levels of *total* emissions in countries with more stringent climate policies, and to companies with the largest *growth* in emissions in countries in emerging markets with large energy and manufacturing sectors.

They suggest this is due to a 'Carbon Premium' linked to Transition Risk

Climate risk to companies and investors comes in two forms. The first is **physical risk**, which reflects the mainly negative impact of climate and weather-related events on company operations and supply chains. The second is **transition risk**, which reflects the risks – or opportunities - facing the company from the transition to a decarbonised economy. **There are three broad, interconnected transition risk channels,** illustrated by the figure below.[3]

If a company has high emissions, investors may consider it to face high levels of transition risk through any or all risk channels. As such, they **may only invest in such firms if they can expect to receive outsized returns for bearing this transition risk**, increasing the cost of equity. Firms are then incentivised to deliver these returns to attract and keep investors, **resulting in a 'Carbon Premium'**.

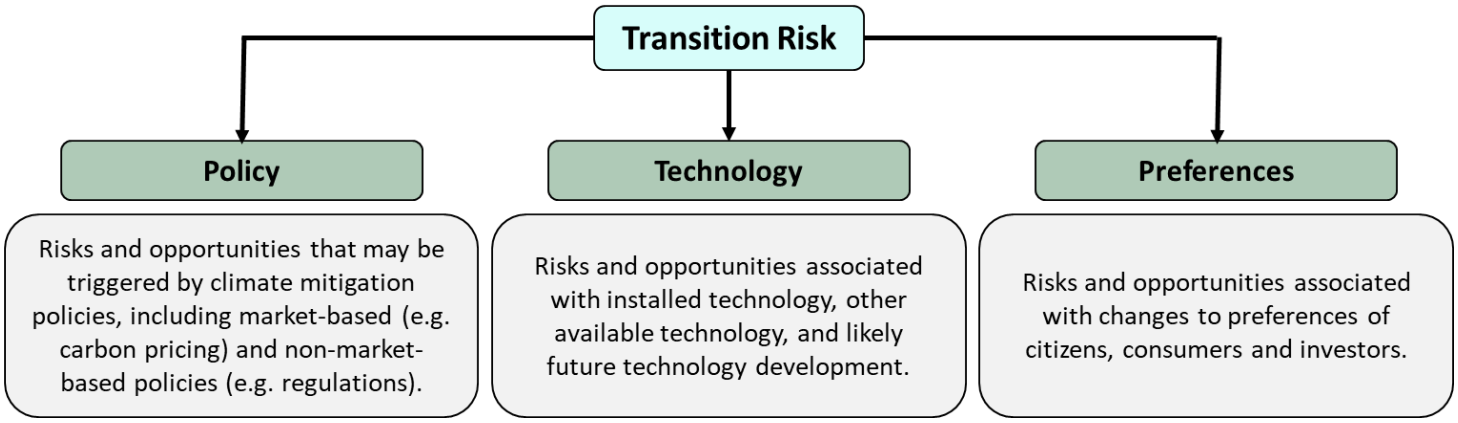

Figure 1 – Transition risk. Created by Greenwheel.

Some studies corroborate the presence of a Carbon Premium…

Del Prado (2019)[4] found that **returns to emission-intensive firms in the US outperformed low-emission firms over 2005-2017**, while Alessi et al (2021)[5] found that

returns are higher to emission-intensive firms with poor emissions disclosure in Europe. Park et al (2023)[6] finds **evidence of a Carbon Premium in South Korea**; an economy heavily reliant on emission-intensive industries, and **particularly in emission-intensive firms with higher shares of foreign ownership**. They suggest this is due to higher levels of attentiveness to environmental issues than domestic investors.

Sankar et al (2024)[7] find that **increasing Scope 1 emissions is associated with larger returns but find no relationship for other emission scopes**. They also find **that firms that decrease their Scope 1 emissions do not generate decreasing returns**. They suggest this may be because **such a reduction is already priced in**.

...while others find no evidence, or even a *negative* Carbon Premium

Some studies find returns from high-carbon firms *underperform* low-emission firms. In et al (2019)[8] find that returns from firms with low carbon-intensity in the US outperformed high carbon-intensity firms over 2005-2018, while Bauer et al (2022)[9] found that between 2012 and 2021, lower-carbon firms generated greater returns than high-carbon firms in USA and all other G7 countries excluding Italy – although they find high-carbon stocks outperformed in 2022, as the energy crisis grew. Using a proxy for firm emissions, Pastor et al (2022)[10] also find returns to low-carbon stocks outperformed in the USA over a similar period.

Hambel & ven der Sanden (2024)[11] find that over 2007-2023, **a negative carbon premium can be found in both the USA and on average across 90 countries**. However, they highlight that their **results are highly contingent on study design** (see below).

Several other studies find limited or no evidence for a link between company carbon emissions and returns to shareholders.[12,13,14,15]

Opposing results are likely driven in part by choices in study design

Studies that examine different countries, sectors and timeframes may account for some differences in results. However, **several studies overlap in scope, with a particular focus on large publicly traded firms in the USA in the 2010s**. Evidence for other countries, timeframes and companies is largely missing. This is likely to be mostly a result of data availability. **A significant contributor to this variation is choices around emissions data, emissions metrics, and general methodology**.

Emissions Data

Studies in this area tend to **use emissions estimated by vendors to fill the gaps in disclosed emissions**. Around 70% of emissions data for US firms in key databases are vendor-estimated, and there is evidence to suggest that they are often inaccurate, and significantly determined by firm fundamentals. This means that **studies using this data may simply be documenting a causal loop**, rather than an independent connection between emissions and returns.[13]

Additionally, while some studies include 'upstream' scope 3 emissions, **almost all studies exclude downstream scope 3 emissions** – although some use proxy data[7], which also likely produces a causal loop. This would **significantly skew the results for firms where the bulk of emissions are associated with the use of their products**, such as oil and gas firms, or auto manufacturers.

When limiting Bolton & Kacperczyk's[1] **analysis to disclosed rather than estimated data,** Aswani et al (2023) find that **the *positive* connection between emissions and returns falls away**.[II] Hambel & ven der Sanden's **finding of a *negative* premium also disappears when using only reported data**.[11] However, this approach may also contain an inherent problem – **emission-intensive firms that disclose their emissions reduce uncertainty for investors, and so reduce any Carbon Premium investors may demand.**[16]

Zhang (2024)[14] highlights that **many studies also don't account for the lag in publication of emissions data upon which investors can decide to demand a Carbon Premium**. When they repeat Bolton & Kacperczyk's[2] analysis and **account for this lag, they also find evidence of a Premium disappears in both the USA and internationally**. Again, Hambel & ven der Sanden's **finding of a negative premium – both in the USA and internationally – also disappears when data is lagged**.[11]

Emissions metrics: Total emissions vs emissions intensity

Bolton & Kacperczyk[1,2] **measure the level of and changes to a company's total emissions**. Aswani et al[13] argue that **any short-term changes to a company's emissions are highly likely to be caused by changes to production and sales**, in turn highly correlated to investor returns. This again would **suggest a correlation between emissions and returns is 'baked in'**.

Instead, they **argue that emissions *intensity* – the ratio of emissions to sales – better captures a firm's emissions performance and risk level**. In using this measure, they find no relationship between company emissions and returns to investors (using both actual and vendor-estimated emissions data).

Hambel & ven der Sanden's finding of **a negative Premium again disappears when using emissions intensity**[11] Zhang et al[14] also conducted their lagged analysis using company emissions *intensity*, and while they still find no evidence for a Carbon Premium internationally, the premium turns *negative* in the USA.[14]

[II] Bolton and Kacperczyk (2021) do report a significant correlation between disclosed emissions and stock returns in the USA, but Aswani et al (2023) find that this result only holds with a specific choice of industry classification system When using other, more common definitions (e.g., GICS), the connection again falls away, even when using estimated emissions data.

Whether total emissions or emissions intensity is the best indicator of firm-level transition risk is contentious. The **key claims and counterclaims are illustrated below**[13,17,18].

On balance, **the arguments for emissions intensity are strongest.** However, **complications around the best denominator then arise**. Revenue, sales, and returns to shareholders are all used, while physical output – e.g. tonnes of steel or energy sold – are also available in some cases. It is not immediately clear which of these – if any – is best to use when examining a relationship with returns to shareholders.

Total emissions vs emissions intensity

Claim	Counterclaim
Emissions intensity can hide the real emissions impact a company might be having	Intensity is a better basis to compare companies of different size; more appropriate to *firm-level* risk
Company emissions pledges and public policies tend to concern absolute emissions	Company emission pledges and investor targets are often *intensity* based, as often are sector-specific public policies
Emissions intensity introduces 'noise' of sales or revenue into the analysis	A preferred approach than controlling for firm size separately, which can introduce significant multicollinearity

Figure 2 – Total emissions vs emissions intensity. Created by Greenwheel.

Some studies use composite indicators of emissions or related factors (e.g. presence of emission reduction targets)[30], some of which include broader environmental factors (e.g. resource use).[10] **This introduces even greater risk** of confounding factors and collinearities, particularly as ratings can be very different between vendors.[13]

Methodology choices

Different quantitative approaches are used, and some results have been found to be **highly dependent on the exact specification of the model and control variables**.[13,11]

While the **studies that find a positive Carbon Premium typically use regression models, most studies reporting better returns to low-emission firms use empirical asset pricing methods**.[9]

Additionally, **almost all studies examine correlation, not causation**. As such, reverse causality can't be ruled out – i.e., high-carbon firms found to receive higher returns are less motivated or compelled to decarbonise.[19]

Expectations vs outcomes: company performance, climate concern and policy context

Regardless of the specific data and emissions metric used, **most studies examine *realised* returns as a proxy for *expected* returns**, and thus the level of transition risk priced in through the cost of equity.

However, **differences between expected and realised returns can be driven by *unexpected* developments**. Three such factors have been examined in studies so far – company performance exceeding expectations, unexpected changes in concerns around climate change, and the overall policy context.

Company performance

Atilgan et al (2024)[20] find that companies with high *total* emissions and high *growth* in emissions are highly correlated with earnings surprises, as they are with high returns to investors. They **conclude that around half of outsized realised returns associated with high-carbon firms in the USA may result from unexpected outperformance** rather than a Carbon Premium, if it exists.

Climate concern

Moretti & Santi (2023)[21] found evidence for **a carbon premium in realised returns for stocks traded across exchanges in Europe, but only in countries where concern around climate change is high**.

However, several studies find high-carbon stocks *underperform* when concern around climate change unexpectedly grows. For example, Choi et al (2020)[22] found that returns to high-carbon stocks traded on major stock exchanges underperform in periods of abnormally warm weather experienced in cities where exchanges are based – driven largely by sell-offs by local retail investors. Others find high-carbon stocks in the USA underperform when attention on climate change in the media unexpectedly increases,[23,24] which is often correlated with abnormal weather conditions.[25] Some studies that find a negative carbon premium suggest such 'shocks' explain their findings.[9,10]

Some studies also find that **increased media attention to transition risk is also associated with underperforming high-carbon stocks**[23], **or abnormal returns to renewable energy companies**.[26]

Policy context

Some studies have examined the role of unexpected changes in the broad climate policy context. **Evidence around the effect of the Paris Agreement is mixed**. Monasterolo & de Angelis (2020)[27] find that **mean returns from global, US and EU low-carbon indices increased after the Paris Agreement was signed in 2015, while there was no appreciable change to high-carbon indices. This result is broadly supported by other studies**[26,28], although Diaz-Rainey et al (2021)[29] find that the Paris Agreement was associated with a significant reduction in returns to the oil and gas sector – particularly those with significant operations in the USA. Bolton & Kacperczyk (2023)[2] instead find the carbon premium increased after the Paris Agreement, particularly in Asia, but they also find that when controlling for the increase in sample size due to data availability around this time, they find no appreciable effect.

Some studies have examined the impact of the 2016 and 2020 US Presidential elections, **which had unlikely or highly uncertain outcomes**. Mukanjari & Sterner (2023)[28] found that fossil fuel company stocks gained significantly with the election of President Trump in 2016, while low-carbon energy stocks suffered. They find that this reversed with the election of President Biden in 2020.

Similarly, Remalli et al (2021)[30] found **the election of President Trump was associated with a short-run growth in returns to carbon-intensive firms and sectors**. However, they also find that **'climate responsible' firms[III] also experienced growing returns** – particularly if they held a long-term institutional ownership base. They suggest that this may be due to such **investors anticipating any hit climate policy to be transitory, and which would set the stage for even more stringent climate policy in the future than would otherwise have been the case.**[IV] They find that stock prices for such firms increased substantially following the 2020 election of President Biden.

However, again, **separating the influence of other trends and events** – such as differences between expected and actual outcomes around the Covid-19 pandemic and associated recovery packages around the time of the 2020 US Presidential election – **means proving causality remains difficult**.

Robust carbon pricing clearly depresses returns from high carbon stocks...

Several studies specifically examine the impact on shareholder returns from the EU's Emissions Trading System (EU ETS), which places a carbon price on electricity generation and energy-intensive industries in the EU.

Some studies find **evidence of a Carbon Premium for emission-intensive electricity generators linked to an increase in carbon price in the first years of the EU ETS**.[31,32] However, during this time, permits were freely allocated to all participants. The authors suggest the Premium is **a function of greater cash flow from windfall profits during free permit allocation**, generated from both selling excess permits and passing through the opportunity cost of those surrendered to the electricity price paid by consumers.

Free allocation of permits has since become significantly more stringent, with all electricity generators and many energy-intensive firms receive their permits through auction and trading. **Several studies across countries and sectors have confirmed that after free allocation was restricted, the Carbon Premium either disappeared or became negative**.[33,34,35,36,37]

Other studies also found that as the EU ETS price rose, returns to the most carbon-intensive firms suffer when they must buy permits. However, they also **found the effect**

[III] Defined as firms that score highly on measures including whether a firm has undertaken investments that effectively improved its energy efficiency in recent years, has set targets to reduce its future emissions, has adopted frameworks to manage climate change, and/or has launched new products to directly address this class of problems.

[IV] The authors call this their 'Boomerang Hypothesis'.

to be asymmetric – a reduction in carbon price was not accompanied by an equivalent increase in returns.[37,38,39] Brouwers et al (2016)[40] find that **the effect is particularly strong for firms with limited ability to pass-through carbon costs**.

One study also found find that **when the carbon price increases due to target policy action, returns to carbon-intensive firms in the EU that are *not* covered by the EU ETS suffer to an even greater degree**. They suggest this may be **due to a heightened risk that policymakers may soon turn focus their attention on these firms**.[37]

Compliance carbon prices now cover a quarter of global emissions. **Carbon pricing set to expand in coming years, including in many emerging markets**[41], **while existing systems are set to become more stringent** and apply indirectly to others (for example, through the introduction of the Carbon Border Adjustment Mechanisms in the EU). This means **the returns from high-carbon companies covered by these mechanisms may be at risk**.

...but there has been little attention on the influence of other policies

Although carbon pricing is often most prominent, **other forms of climate policy – such as regulations and subsidies for low-carbon technologies – have been much more prevalent** across the world and across sectors.

Such policies primarily act via the 'technology' transition risk channel, by restricting high carbon technologies, requiring the use of existing low-carbon technologies, or supporting the development of new low-carbon technologies.

The use of **subsidies to drive the development of new technologies may carry particularly high risk and opportunity**. This is due to the uncertainty associated with how new technologies will develop and begin to compete with incumbents and in turn influence preferences, **and what this would mean for returns to shareholders due to implications for company operations** (scope 1 and 2 emissions) **and the market for their products** (scope 3 emissions). It is also the policy area under most active development, including in the USA following the introduction of the Inflation Reduction Act (IRA).

Few studies have examined whether returns to shareholders in high- and low-carbon companies have responded to such risks and opportunities to date, and what any moderating factors – such as ease of technology substitution, or strength of company transition plans – might be.

This is likely due in part to data availability (including scope 3 emissions), and the complexity involved. However, **as low-carbon technology continues to develop and compete with fossil fuel incumbents across the economy, their relevance to companies and their returns to shareholders are only likely to grow.**

What does all this mean?

- **It's unlikely a *systemic* Carbon Premium exists.** Some shareholders in high-carbon companies may demand and receive outsized returns for bearing transition risk, but the evidence suggests that this has not been systemic or even common.

- **It may not even be clearly detectable.** Shareholder expectations and returns are influenced by a multitude of dynamic and interacting factors. Fully accounting for all these to clearly identify how returns are linked to CO_2 emissions alone is extremely difficult, if not functionally impossible. This is particularly the case with currently limited data availability and quality. Further determining whether any such connection is the result of investors pricing transition risk is more complex yet.

- **Whether or not transition risk influences shareholders choices or returns, transition risk is undoubtedly real**. However, the form this risk takes – and its strength and immediacy – will vary between countries, sectors, and individual companies.

- **There is likely a 'tipping point' where Transition Risks move from *vague and distant*, to *clear and immediate*, or even *realised*.** The clearest instance of this is through the introduction of direct 'polluter pays' policies such as carbon pricing. This has had a clear and negative impact on high-carbon firms in Europe, where widespread and robust carbon pricing is most well established.

- **When this may happen, and its consequences, will vary firm by firm. Being prepared is crucial**. Transition risk through all three channels – policy, technology and changing preferences – is only likely to grow for exposed sectors. Having a credible plan to deal with this risk is crucial to maintain stability and shareholder value in the long-term.

- **This will be the case, in particular, for *technology* risk, as unlike policy and preferences, changes in this domain cannot be reversed**. Policies and preferences inherently frequently change, often in different directions. Once low carbon technologies are available and become competitive, the risk to high-carbon counterparts – and the companies that use and produce them - becomes effectively permanent.

Endnotes

[1] Bolton & Kacperczyk (2021)
[2] Bolton & Kacperczyk (2023)
[3] Venturini (2022)
[4] Del Prado (2019)
[5] Alessi et al (2021)
[6] Park et al (2023)
[7] Sankar et al (2024)
[8] In et al (2019)
[9] Bauer et al (2022)
[10] Pastor et al (2022)
[11] Hambel & van der Sanden (2024)
[12] Broccardo et al (2024)
[13] Aswani et al (2023a)
[14] Zhang (2024)
[15] Gorgen et al (2020)
[16] Bolton & Kacperczyk (2021b)
[17] Bolton & Kacperczyk (2024)
[18] Aswani et al (2023b)
[19] Chakrabarty & Nag (2023)
[20] Atilgan et al (2024)
[21] Moretti & Santi (2023)
[22] Choi et al (2020)
[23] Ardia et al (2022)
[24] El Ouadghiri et al (2021)
[25] Huij et al (2024)
[26] Batten et al (2016)
[27] Monasterolo & de Angelis (2020)
[28] Mukanjari & Sterner (2023)
[29] Diaz-Rainey et al (2021)
[30] Ramelli et al (2021)
[31] Veith et al (2009)
[32] Oberndorfer (2009)
[33] Oestreich & Tsiakas (2015)
[34] Mo et al (2012)
[35] Bernardini et al (2021)
[36] Witkowski et al (2021)
[37] Hengge et al (2023)
[38] Bolton et al (2023)
[39] Millischer et al (2023)
[40] Brouwers et al (2016)
[41] World Bank (2024)

Key Information
No investment strategy or risk management technique can guarantee returns or eliminate risks in any market environment. Past performance is not a guide to future results. The prices of investments and income from them may fall as well as rise and an investor's investment is subject to potential loss, in whole or in part. Forecasts and estimates are based upon subjective assumptions about circumstances and events that may not yet have taken place and may never do so. The statements and opinions expressed in this article are those of the author as of the date of publication, and do not necessarily represent the view of Redwheel. This article does not constitute investment advice and the information shown is for illustrative purposes only. Whilst updated figures are not available for all sources, we have performed further analysis and believe that this data has not significantly changed and is reflective for 2024.

Disclaimer

Key Information

No investment strategy or risk management technique can guarantee returns or eliminate risks in any market environment. Past performance is not a guide to future results. The prices of investments and income from them may fall as well as rise and an investor's investment is subject to potential loss, in whole or in part. Forecasts and estimates are based upon subjective assumptions about circumstances and events that may not yet have taken place and may never do so. The statements and opinions expressed in this article are those of the author as of the date of publication, and do not necessarily represent the view of Redwheel. This article does not constitute investment advice and the information shown is for illustrative purposes only. Whilst updated figures are not available for all sources, we have performed further analysis and believe that this data has not significantly changed and is reflective for 2025.

Disclaimer

directors, officers, employees, or representatives (including affiliates) accepts any liability whatsoever for any errors and/or omissions or for any direct, indirect, special, incidental, or consequential loss, damages, or expenses of any kind howsoever arising from the use of, or reliance on, any information contained herein. Information contained in this document should not be viewed as indicative of future results. Past performance of any Transaction is not indicative of future results. The value of investments can go down as well as up. Certain assumptions and forward looking statements may have been made either for modelling purposes, to simplify the presentation and/or calculation of any projections or estimates contained herein and Redwheel Group does not represent that that any such assumptions or statements will reflect actual future events or that all assumptions have been considered or stated. There can be no assurance that estimated returns or projections will be realised or that actual returns or performance results will not materially differ from those estimated herein. Some of the information contained in this document may be aggregated data of Transactions executed by Redwheel that has been compiled so as not to identify the underlying Transactions of any particular customer. No representations or warranties of any kind are intended or should be inferred with respect to the economic return from, or the tax consequences of, an investment in a Redwheel-managed fund. 22 This document expresses no views as to the suitability or appropriateness of the fund or any other investments described herein to the individual circumstances of any recipient. The information transmitted is intended only for the person or entity to which it has been given and may contain confidential and/or privileged material. In accepting receipt of the information transmitted you agree that you and/or your affiliates, partners, directors, officers and employees, as applicable, will keep all information strictly confidential. Any review, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information is prohibited. Any distribution or reproduction of this document is not authorised and is prohibited without the express written consent of Redwheel Group. The risks of investment are detailed in the Prospectus and should be considered in conjunction with your investment adviser. Please refer to the Prospectus, Key Investor Information Document (UCITS KIID), Key Information Document (PRIIPS KID), Summary of Investor Rights and other legal documents as well as annual and semi-annual reports before making investment decisions; these documents are available free of charge from RWC or on RWC's website: https://www.redwheel.com/ and available in local languages where required. RWC as the global distributor has the right to terminate the arrangements made for marketing Redwheel Funds in certain jurisdictions and to certain investors. Redwheel Europe is the sub-distributor of shares in Redwheel Funds in the European Economic Area ("EEA") and is regulated by the Danish Financial Supervisory Authority. This document is not a solicitation or an offer to buy or sell any fund or other investment and is issued in the UK by RWC and in the EEA by RW Europe. This document does not constitute investment, legal or tax advice and expresses no views as to the suitability or appropriateness of any investment and is provided for information purposes only. The views expressed in the commentary are those of the investment team. Funds managed by Redwheel are not, and will not be, registered under the Securities Act of 1933 (the "Securities Act") and are not available for purchase by US persons (as defined in Regulation S under the Securities Act) except to persons who are "qualified purchasers" (as defined in the Investment Company Act of 1940) and "accredited investors" (as defined in Rule 501(a) under the Securities Act). This document does not constitute an offer to sell, purchase, subscribe for or otherwise invest in units or shares of any fund managed by Redwheel. Any offering is made only pursuant to the relevant offering document and the relevant subscription application. Prospective investors should review the offering memorandum in its entirety, including the risk factors in the offering memorandum, before making a decision to invest.

This document does not constitute an offer to sell, purchase, subscribe for or otherwise invest in units or shares of any fund managed by Redwheel. Any offering is made only pursuant to the relevant offering document and the relevant subscription application. Prospective investors should review the offering memorandum in its entirety, including the risk factors in the offering memorandum, before making a decision to invest.

CONTACT US

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

invest@redwheel.com | www.redwheel.com

Redwheel London
Verde
10 Bressenden Place
London SW1E 5DH
+4420 7227 6000

Redwheel Europe
Fondsmæglerselskab A/S,
Havnegade 39, 1058
København K, Denmark

Redwheel Miami
2640 South Bayshore Drive
Suite 201
Miami
Florida 33133
+1 305 6029501

Redwheel Singapore
80 Raffles Place
#22-23
UOB Plaza 2
Singapore 048624
+65 68129540