

THE INTRODUCTORY GUIDE TO

RobecoSAM Net Zero 2050 Climate Equities

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1. Introduction: Investors' role in tackling climate change

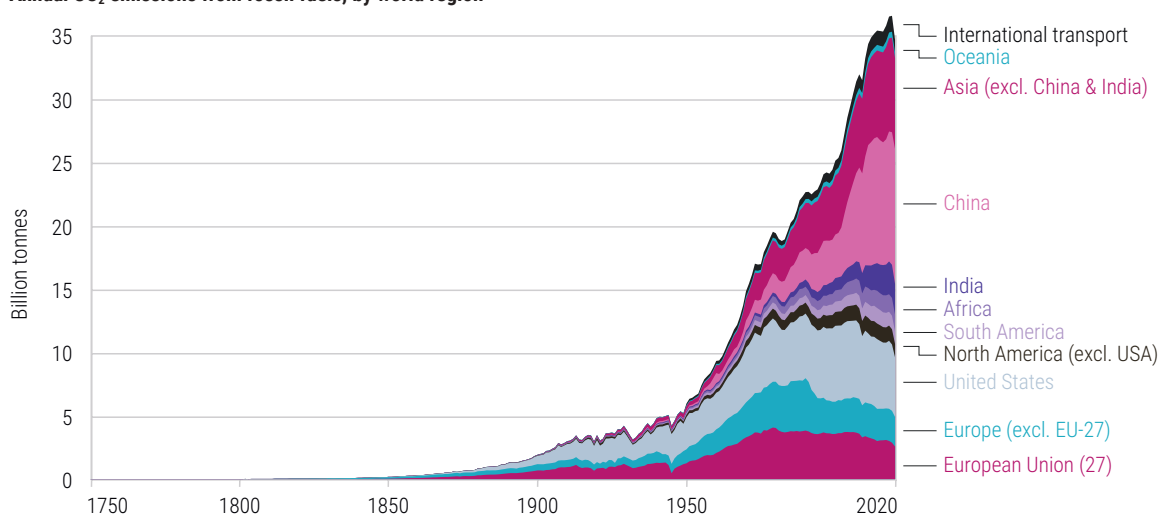
Climate change is the biggest challenge facing humanity, and we all have a role to play in tackling it. Meeting the Paris Agreement goal of keeping a global temperature rise to below 2 °C, and pursuing efforts to remain below 1.5 °C means the world must become carbon neutral by 2050. This requires decarbonization on an epic and unprecedented scale, at a time when emissions of greenhouse gases have still not peaked. It requires commitment on a global scale, from governments, companies and consumers... and also from investors.



This is why tackling climate change is not just a challenge – it is also the biggest opportunity of our times. The solutions that already exist to limit global warming include a switch to renewable energy from fossil fuels, the gradual electrification of power distribution and transport systems, and carbon capture

technology that can stop CO₂ from entering the atmosphere in the first place. It's all there, but it requires colossal investment: the OECD estimates that “trillions of dollars” will be needed to reach net zero, both in upgrading existing processes and developing new infrastructure.¹

Annual CO₂ emissions from fossil fuels, by world region



Source: Our World in Data²

Note: This measures CO₂ emissions from fossil fuels and cement production only – land use change is not included. ‘Statistical differences’ (included in the GCP dataset) are not included here.

RobecoSAM Net Zero 2050 Climate Equities

Global warming is therefore everybody's problem, and we all have a role to play in solving it. Robeco strongly believes that investors also have a clear responsibility to use their financial muscle for the common good. Capital can be put to work in those arenas that can help, while avoiding those companies that are slow or reluctant to change and remain part of the problem. Creating investment strategies that target global warming directly is increasingly the way forward, alongside more traditional sustainable investing products that also fund solutions.

Robeco is therefore proud to launch the RobecoSAM Net Zero 2050 Climate Equities strategy. It is a no-nonsense strategy that aims to pick the leading companies best positioned to tackle climate change. Rather than offering ‘quick fix’ portfolios containing companies that are already at, or close to, net zero, it will specifically look for those that are central in the transition to

net zero. This will make companies such as mining equipment makers eligible if their products assist with decarbonizing hard-to-abate sectors. The strategy can also offer ways to mitigate the impact from existing high-carbon processes such as carbon capture solutions.

By creating this investment product, we hope to exemplify what investors can do. The key to success is, as its name suggests, achieving net zero by 2050.

1. <https://www.oecd.org/environment/financing-climate-futures-9789264308114-en.htm>
2. <https://ourworldindata.org/search?q=annual+CO2+emissions+by+world+region>

2. Why decarbonization is the solution

Decarbonization to reach net-zero emissions by 2050 lies at the heart of attempts to limit global warming to below 2 °C above pre-industrial levels by 2100, and ideally to limit it to 1.5 °C. Global warming is caused by the relentless emissions of billions of tons of greenhouse gases, led by carbon dioxide, since the industrial era began in the 18th century. Trapped in the Earth's atmosphere and unable to escape into space, these create a greenhouse effect that has gradually been warming the planet over the last 250 years. Left unchecked, it will continue to do so.

The atmospheric concentration of CO₂ is now 415 parts per million, its highest level for more than three million years.³ Temperature rises are already changing weather systems, causing more powerful hurricanes, forest fires, floods, heatwaves and droughts. This could trigger a domino effect, causing a steady rise in extreme weather events in the coming decades, most likely displacing large populations and resulting in massive financial losses.

Longer-term warming is likely to make agriculture unsustainable in places and impossible in others, due to the gradual desertification that temperature rises of above 2 °C would exacerbate. Record-high temperatures have already been seen on an annual basis, with 10 of the world's hottest years all seen in the 21st century. So, it's time to do something about it before it's too late.

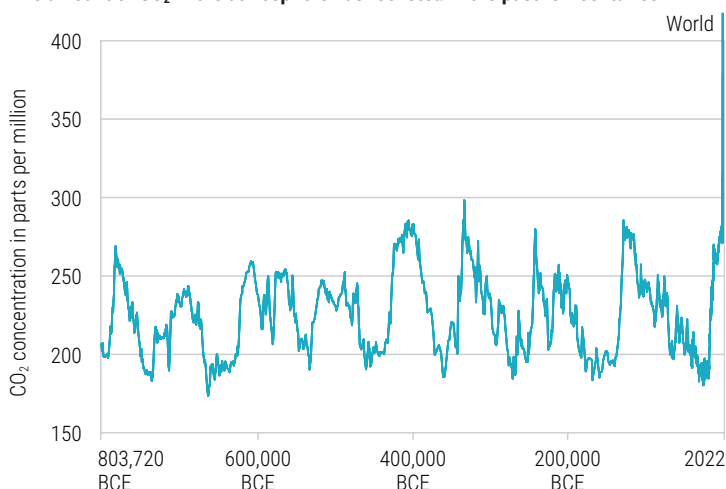
Containing global warming simply means getting the atmospheric concentration of greenhouse gases back down to more manageable levels. And yet emissions have not even peaked; this is not set to happen until the 2030s, when coal and oil use levels off in favor of renewable sources of energy. Subsequently the main challenge lies in decarbonizing the global economy, led by the replacement of fossil fuels for power generation and transport with zero-emission sources.

This is a daunting task: the world has relied on fossil fuels since Roman times, and it was coal that powered the industrial revolution as a cheap source of fuel. Cars can run on battery power, but airlines do not yet have a substitute for aviation fuel, and hydrogen is only a solution for decarbonizing heavy transport if it is produced using green energy. The far harder task lies in decarbonizing the whole of industry, targeting the 'four pillars of modern society' – steel, cement, fertilizer, and plastics – all of which are high in emissions (and waste).

Targeting the companies that can help bring this about is the essence of RobecoSAM Net Zero 2050 Climate Equities.

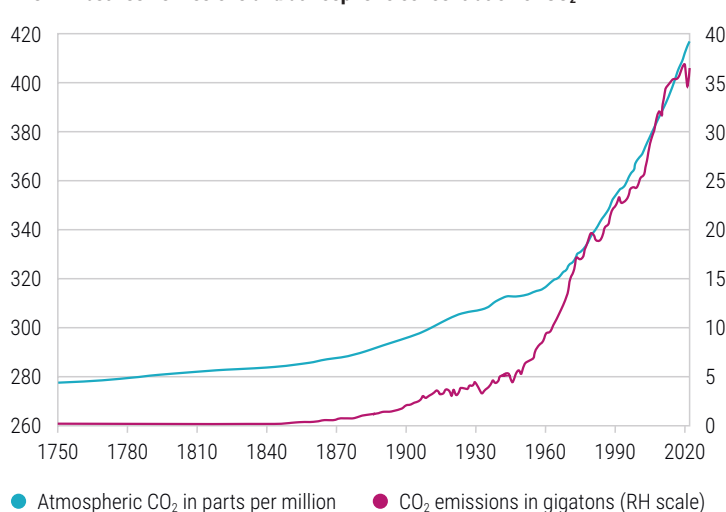
3. <https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide>
4. <https://ourworldindata.org/atmospheric-concentrations>
5. <https://www.climate.gov/media/14596>

The amount of CO₂ in the atmosphere has rocketed in the past few centuries



Source: Our World in Data⁴

The link between emissions and atmospheric concentration of CO₂



Source: climate.gov⁵

3. Investing in a low-carbon future

The strategy itself has a single-minded, high-conviction approach that will target the companies that are leading the way to net zero. Unlike many climate strategies that target green industries such as renewable energy, which are already close to or at net-zero carbon emissions, RobecoSAM Net Zero 2050 Climate Equities will specifically look for those companies that are transitioning, and in any industry.



The criteria for inclusion are strict to avoid it morphing into “yet another environmental strategy”, says its portfolio manager, Chris Berkouwer. Companies that have a clear decarbonization pathway to becoming net zero by 2050 will be eligible, along with those that can help others to achieve it, such as mining equipment suppliers, nature-based assets or transition capital providers.

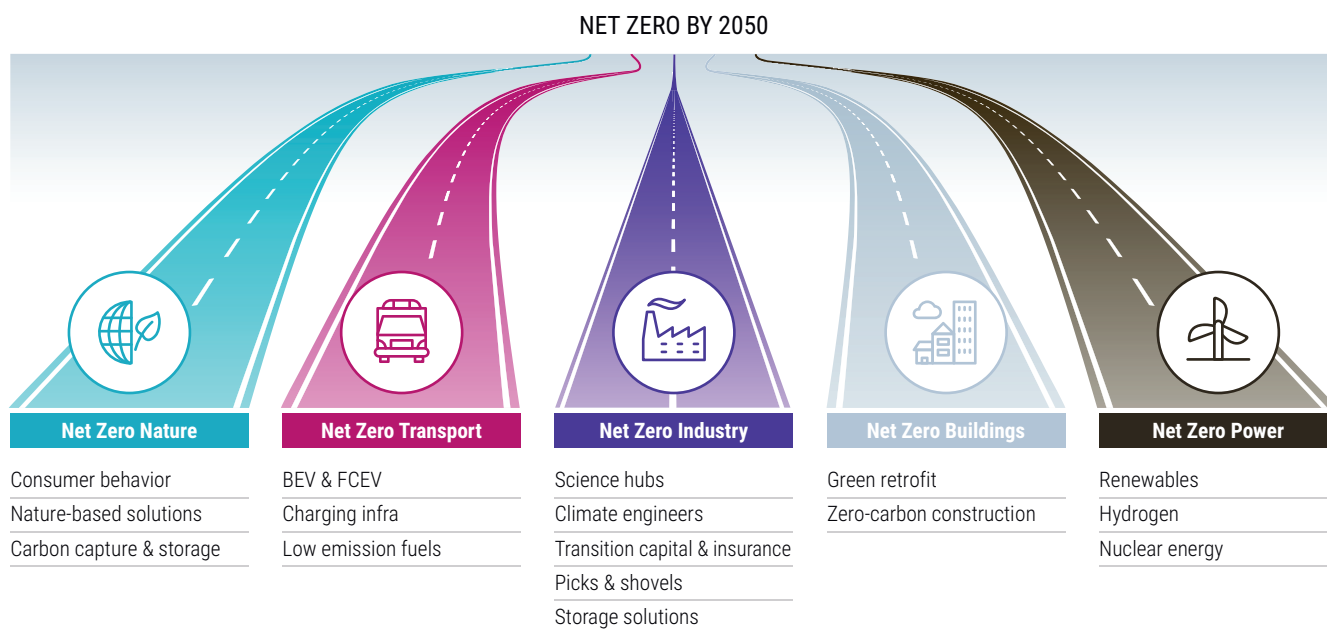
The strategy follows a dedicated climate transition benchmark, the MSCI World Climate Change Index, rather than a standard index. This will make it easier to judge the success of the product, says Berkouwer, who also co-manages Robeco Sustainable Global Stars Equities.

A unique tailwind

“We have a unique tailwind on the policy, technology and capital sides of decarbonization where all the planets are aligning and yet time is running out,” says Berkouwer. “We need to act now and invest in such a way that we enable the active contributors offering solutions to climate change. It’s not just a case of targeting the companies that already have a low carbon footprint.”

“Instead, we’ll look for the companies leading the transition in the real economy, and also those whose business activities can help other companies to get there. For example, hydrogen producers are helping to reduce reliance on fossil fuels. You might say we’re also looking for the ‘picks and shovels’ companies – buying the builders as well as the building.”

The real economy’s five roads to net zero in nature, transport, buildings, power and industry



Source: IEA; GS Sustain, McKinsey, BAML research

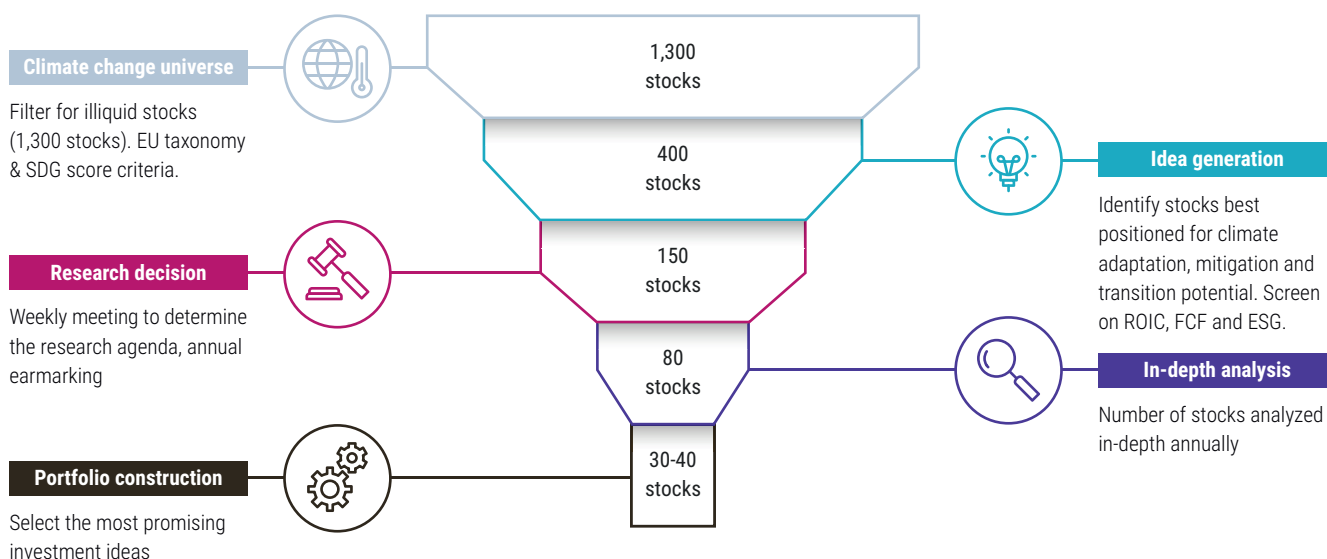
Berkouwer says the carefully targeted nature of the stock selection process means only about 30-40 companies are picked from an initial universe of about 1,300 stocks. Aside from standard ESG integration that might identify potential winners, along with carbon data that is becoming more forward-looking, the proprietary Robeco SDG framework will also be used.

"The problem that many of the climate investment strategies out there have is that they're focused on making sure the carbon footprint of the portfolio is really low, often by simply excluding

the high emitters," he says. "If you do that, you miss out on those companies that might have a heavy footprint now but are very clearly on a transition pathway towards decarbonization."

"Something that we do differently, for example, is go beyond the traditional climate focus in the clean tech space. The solutions to climate change are very broad-based across all sectors, and targeting that is something you generally do not see. So, this is a product with its feet deeply rooted in the real economy."

Portfolio construction – narrowing a universe of 1,300 stocks down to about 30-40



Source: Robeco

A bespoke benchmark

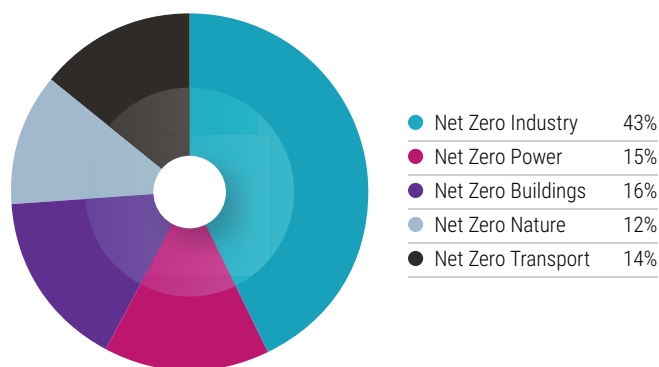
Another innovation is following the MSCI World Climate Change Index, which was created by the MSCI index provider to allow asset managers to make better comparisons in this relatively new field. "We're one of the first asset managers to actually use a dedicated climate benchmark as well, not just for assessing carbon footprint purposes, but also for performance measurement," says Berkouwer. "We need to practice what we preach and be prepared to be judged on it."

"It's also important to distinguish RobecoSAM Net Zero 2050 Climate Equities from the traditional trend or thematic strategies that are inherently more growth-oriented. This strategy needs a much more comprehensive approach in order to tackle the CO₂ problem. That means broad diversification across all sectors."

"So, it won't have an outspoken growth or value tilt. What is important is that, just like the Global Stars philosophy of

following a high-conviction approach, it has a quality bias. Portfolio companies need to have proven business models. There is little room for unicorns."

The main themes being followed



Source: Robeco

Getting a head start

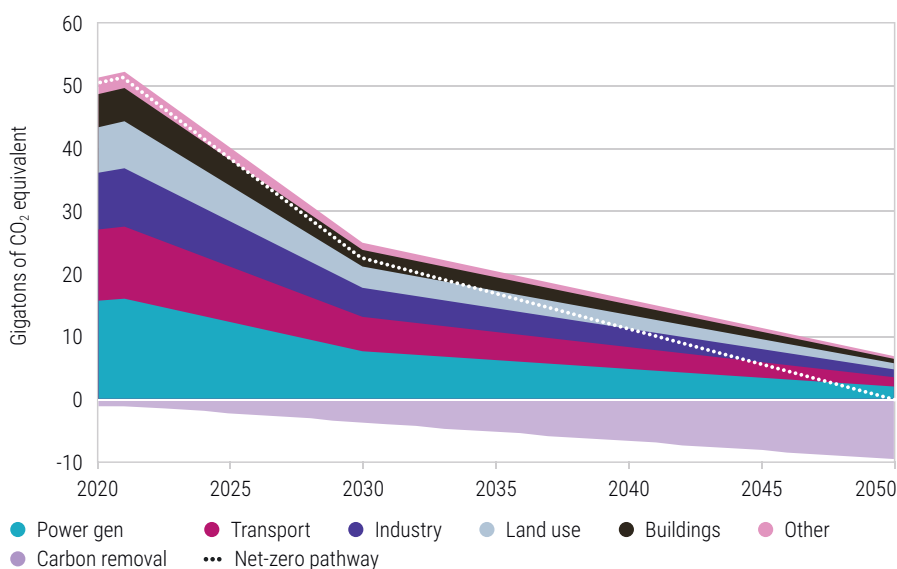
The portfolio will seek a head start by including companies that have already made some headway in decarbonizing. “The starting point is a 30% lower carbon footprint than the market,” says Berkouwer. “Then we’ll seek decarbonization pathways of 7% a year to meet the Paris goals.”

“This means there is some overlap with existing Robeco products – perhaps a 10-15% overlap with some of our SDG strategies that also seek 7% decarbonization per year, for example – but overall this will be minimal.”

“Defining the pathways has become much clearer since the net-zero initiatives were launched a few years ago – we now have a much better idea of what we are looking for to actually reach this goal. This wasn’t the case when many climate strategies started in the early 2010s, and most ended up becoming broad-based environmental investments.”

“It’s only recently that we have had a better view of the solutions, as science has become better able to identify the problem areas and specific solution pathways, which equips us better to play this via a dedicated climate strategy.”

Pathways to net zero in terms of the gigatons of CO₂ equivalent that needs to be removed



Source: Robeco, adapted from IPCC, IEA, BAML research

It's all about 'net'

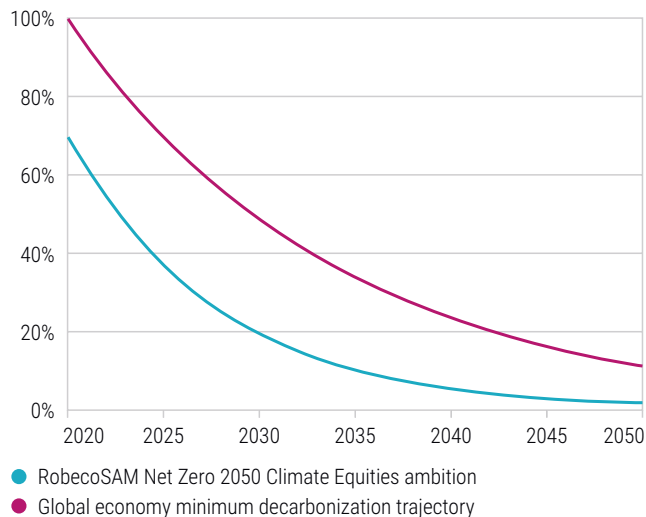
Investors should also be aware that net zero means exactly that. Since some emissions simply cannot be avoided, they can be offset instead using nature-based or technology solutions such as carbon capture.

“Another feature will be investing in carbon removal solutions,” Berkouwer says. “The laws of physics basically prevent us from getting to net zero with all of these sectors by 2050 – it’s impossible. We need to offset the emissions that will remain with carbon removal. That could be carbon capture and storage technology, but also using nature-based solutions.”

“One of the big holdings in the portfolio is a forestry company which is planting millions of trees,” Berkouwer says. “They have massive timberlands on which they generate carbon credits that can be sold. The big oil companies are never going to reach their net-zero targets unless they also buy a lot of these carbon credits, and then ask the forestry company to plant massive amounts of trees on their behalf.”

“After 30 years, they cut down some of the trees and they sell the timber to the wood construction companies who use it for residential construction. It’s all part of the solution; this is the business model of the future, combining carbon offset with sustainable forestry.”

The global minimum decarbonization trajectory for net zero by 2050 and the strategy's ambitions



Source: Robeco

Investor demand

Demand for the product is set to be strong if the views expressed in the 2022 Robeco Global Climate Survey translate into real money being placed in those companies that offer workable solutions. In the survey published in March, 85% of the 300 investors who gave responses said climate change would be a central part of their investment policies over the next two years, while 75% have it taking center stage today.

Climate investment products of all flavors have become particularly important to insurance companies who face a double whammy from global warming – rising liabilities from weather-related damage claims while also needing to decarbonize their assets to meet regulatory requirements.

“We are now so aware of the physical impacts of climate change – we feel nature speak to us,” says Lucian Peppelenbos, Climate Strategist at Robeco. “There is a clear shift to making a real-world impact, with an increased realization that real assets are directly linked to real impacts, particularly when we talk about climate and biodiversity.”

4. Conclusion:

We must act now to tackle global warming

Meeting the Paris Agreement is in everyone's interest – it's simply a matter of getting there. Many slogans have arisen to illustrate the challenge that lies ahead: 'There is no Planet B' or 'We all breathe the same air' to name but a few. What is far harder is the better-known slogan of 'putting your money where your mouth is' and actually doing something about it. This is where targeted investment comes in.

It is only by decarbonizing the things we take for granted, from power generation and transport to consumer goods and construction, that the world has a chance of becoming carbon neutral by 2050. This means putting investor cash into the innovation and restructuring required to replace high-carbon business models with lower or zero-carbon alternatives.

For example, the vast investment in renewable energy infrastructure such as wind turbines and solar panels has shown what can be done. And just look at how far electric cars have come in recent years. But that's the low-hanging fruit: decarbonizing heavy transport is much harder, and currently there are few alternatives to

cement or plastics. In these cases, carbon capture is currently too small to make a difference, and reforestation requires ownership of vast tracts of land.

But the pendulum is now swinging, and the momentum – plus the political will – is now there. The increasing damage done by more extreme weather shows that climate change is with us now, and is not just a problem for our great-grandchildren, as some believe.

This is where RobecoSAM Net Zero 2050 Climate Equities aims to make a real difference. While climate change is a major challenge, it is also a major opportunity. Join us on this journey!

5. RobecoSAM Net Zero 2050 Climate Equities

It's all about transitioning. The drive to meet the Paris Agreement goals means the world must become carbon neutral by 2050, and since most of global industry is nowhere near net zero, that's a big ask. That's why it's so important to focus on the pathways to it, specifically by investing in those companies that can aid the transition over the coming decades.

RobecoSAM Net Zero 2050 Climate Equities has the high conviction and focus necessary to target this crucial arena. This means thinking in new ways and considering, for example, mining companies whose technology can reduce emissions or banks offering funding to carbon-capture solutions. It's not just a case of buying 'clean tech' or renewables since these are already at, or close to, net zero.

While the strategy's core purpose is to help tackle climate change, it still seeks financial returns for its investors. To be able to properly judge how it is doing over time, the strategy follows a benchmark that was specially created for this sector, the MSCI World Climate Change Index. This aims to better track the sustainability objective of the strategy as well as its investment performance.

In all, the strategy offers a direct means of using investment capital to transition towards net zero and help abate climate change. Its true success will be judged in whether the long-term pathway (requiring an average of 7% decarbonization per year) is achieved through stock selection. We believe that through its targeted and no-nonsense approach, it can make a difference.

OBJECTIVE

The strategy will only invest in companies that are on, or can assist with, clear decarbonization pathways that will contribute to achieving net-zero emissions by 2050.

APPROACH

All the tools at our disposal, from standard ESG analysis and carbon data to use of Robeco's proprietary SDG Framework, will be used to identify companies suitable for the portfolio.

BENCHMARK

The specially created MSCI World Climate Change Index will be used as the reference index against which performance will be judged.

ARTICLE 9

The strategy is classified as Article 9 as it targets a portfolio of sustainable investments under the EU's Sustainable Finance Disclosure Regulation.

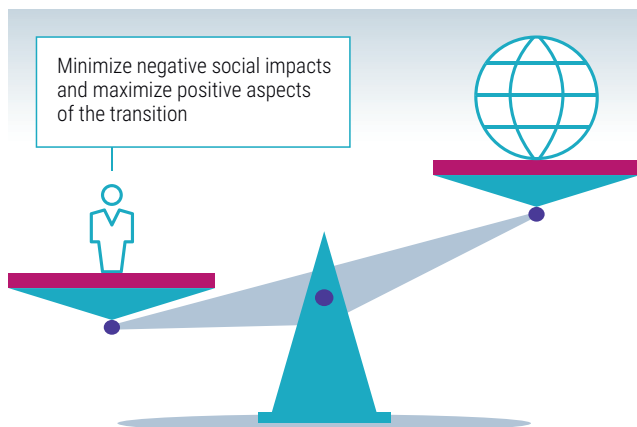


6. Appendix:

The Just Transition – the human side of progress

Human progress often results in making former systems redundant, from the steam trains that replaced horses to the DVDs that replaced videos until they were themselves replaced with digital streaming. Making outdated technology redundant has generally improved our quality of life. Making people redundant, however, comes at a social cost. Replacing fossil fuels with renewable energy puts coal miners out of work, and the fact they have families to feed makes them less likely to want change without viable alternatives. Transition must also work within the democratic process, and few people will agree to change if it makes them poorer.

The social balancing act of transitioning to net zero



Source: Robeco

Fortunately, history has shown that change can take place and create jobs rather than simply shed them. Those originally concerned about the impact that computers would have when they came into common usage from the 1980s need not have worried; the computer industry went on to employ many millions of people. Many of those working in the video industry were able to retrain to make DVDs, and then again into making digital equipment. And as

the US experience has shown, there are now three times as many people employed in solar power than there are in coal mining.⁶

Ensuring that people are embraced and not displaced by change is embodied in what the EU calls a 'Just Transition'. This term was coined as part of the EU Green Deal – a plan to put the 27-nation bloc on its own net-zero pathway, led by massive investment in renewable energy. The EU launched the Just Transition Mechanism as "a key tool to ensure that the transition towards a climate-neutral economy happens in a fair way, leaving no one behind".

The Mechanism explicitly recognizes the impact of switching from fossil fuels and provides targeted support to help mobilize around EUR 55 billion from 2021-2027 in the most affected regions, to alleviate the socio-economic impact of the transition. A Just Transition Fund contains EUR 17.5 billion for countries that need help with the social costs.⁷

"We must show solidarity with the most affected regions in Europe, such as coal mining regions and others, to make sure the Green Deal gets everyone's full support and has a chance to become a reality," says Frans Timmermans, Executive Vice-President of the European Commission.⁸

The Just Transition concept remains new and is still developing. Robeco will follow it carefully and looks forward to eventually integrating it into the RobecoSAM Net Zero 2050 Climate Equities strategy once more is known about the practicalities of this EU initiative.

6. <https://www.politifact.com/factchecks/2017/apr/25/brad-schneider/are-there-three-times-many-solar-energy-jobs-coal/>
7. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism/just-transition-funding-sources_en
8. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism_en



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