Frontier International

Decarbonisation risks and opportunities
— equity manager perspectives

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Introduction

As part of ongoing research into both new and incumbent fund managers, Frontier's equities team regularly travels internationally to meet managers on their home soil. However, with international travel restrictions still in place, these trips continue to take place virtually. Through the power of Zoom, we have just completed a two week trip incorporating a heavy meeting schedule with US, European and Asian managers. While pleased to bypass the jet lag this time around, we're looking forward to being back on the ground in these regions as soon as we can, alongside our Global Investment Research Alliance (GIRA) Partners.

James Gunn
Senior Consultant

James Gunn joined Frontier in 2019 as a Senior Consultant within the Equities Research Team. He has more than 15 years equity markets experience, including direct equities experience. Most recently, he worked as a buy-side equity analyst at Prime Value Asset Management and prior to that he held senior manager research roles with Standard and Poor's and Aviva. He commenced his career as a financial analyst with Lincoln Indicators. James recently completed his Masters of Accounting at Monash University and also holds a Bachelor of Commerce from Melbourne University and Graduate Diplomas of Applied Finance and Financial Planning with FINSIA.

Fraser Murray
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Fraser joined Frontier in 2012 and is the Head of Equities. He was previously at Ibbotson Associates/ Intech Investments for nearly 15 years where he held a variety of roles including five years as Head of Manager Research and five years as Head of Equities and Property. Fraser started his asset consulting career at Towers Perrin in 1994 as a Research Analyst in its Melbourne and London offices. Fraser holds a Bachelor of Commerce with Honours from the University of Melbourne and a Graduate Diploma of Applied Finance and Investments from FINSIA, and is a Fellow of FINSIA.

INTRODUCTION

Decarbonisation risks and opportunities — equities manager perspectives

The global economy is transitioning towards a less carbon-intensive future with the aim of averting the catastrophic environmental and financial consequences of intensified climate change.

Increased regulation and more stringent environmental standards will ultimately underpin the long-term decarbonisation of the global economy. However, the market is moving ahead of policy makers in many jurisdictions and the decarbonisation of listed equity portfolios is accelerating. An acceleration of transition risks could see share prices in some companies impacted much quicker than expected.

Decarbonisation, as the name suggests, is the reduction and mitigation of CO2 emissions (Scope 1-3) released into the earth's atmosphere. Decarbonisation is a complex issue, with the pace and non-linear pathways of this transition far from defined for either industry or the investment community. As a result, decarbonisation is presenting both opportunities and risks for asset owners and their fund managers. This was the key theme explored with managers during our recently completed virtual global equity research trip.

The scope and objective of this paper is to provide a snapshot of active manager perspectives on decarbonisation risks and opportunities, consider the implications and any timely actions for investors. It is not intended to be a technical discussion of measuring a portfolio's carbon footprint; transition scenarios or a framework for establishing a decarbonisation strategy. However, we have included the key steps for establishing such a framework within "The final word" section of this paper, including objectives and inputs as outlined in Frontier's recently released International Equity Configuration Review.

Key decarbonisation topics raised by managers included:

- COVID-19 accelerating green fiscal policy and decarbonisation
- Business model transition
- Decarbonisation opportunities within renewables and beyond
- Momentum in "green" stocks
- Climate-driven process enhancement
- The power of engagement
- Style implications; and
- Regulatory developments.

Key observations, implications, and actions for asset owners to consider.

Evaluating the resilience of portfolio holdings to climate risks (transition and physical) and opportunities will be critical to delivering superior, long-term risk-adjusted returns. This report examines various dimensions of decarbonisation discussed with managers. At the end of this report, we provide a summary table which outlines the key observations, implications, and actions for asset owners to consider.

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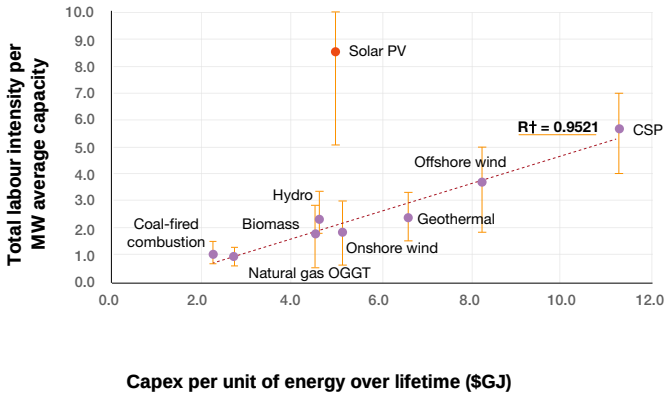
COVID-19 accelerating green fiscal policy

Commentary during the peak of the pandemic suggested co-ordinated decarbonisation efforts could be significantly derailed by the disruption and economic cost of the unprecedented COVID-19 demand shock. However quite the opposite is occurring, driven by expansive fiscal policy measures adopted around the world to support economic recovery. While the fiscal policy response differs materially across jurisdictions, decarbonisation is a key focus of this spend for two reasons. Firstly, it is both labour and capital intensive relative to fossil fuel generation as shown in Chart 1. This supports economic recovery and in-turn business and the consumer. It also aligns with the multi-decade investment required to dramatically alter the world's energy mix, given the long-term economic consequences of unaddressed climate change.

Chart 1: Renewables capital and labour intensive



Source: Wet et al. - IRENA, UNEP-ILO-IOE-ITUC, Goldman Sachs Global Investment Research

Managers also believe there is a highly symbiotic relationship between the deployment of green fiscal policy across regions and the imperative of decarbonisation. One manager said they view decarbonisation as a fifty-year government-sponsored super-cycle for electricity infrastructure investment in Europe, with the EU having the most aggressive decarbonisation targets. This will be supported through higher carbon pricing, which will ultimately make emission-intensive power generation uneconomic. This is hoped to create a virtuous cycle of increased Emissions Trading System (ETS) revenue to incentivise/subsidise the development of renewable sources of investment (at declining costs) and the expectation of higher power demand from current levels. While noting stock specific implications will vary greatly, the manager has approximately 10% of its portfolio currently tied to this theme.

Transition economics are different in the US, however, President Biden's return of the US to the Paris Agreement has been very well-received by most. There is a recognition a US green fiscal policy drive, supported by other environmental policy will accelerate decarbonisation from current levels. While recognising the political impasse that some of these policies may face, managers are alert to the regulatory impacts at both the industry and security level from a new policy direction (opportunities and risks).

In summary, managers are aware of the significant policy tailwind behind the decarbonisation initiative and the challenges of legacy businesses (such as oil companies) not aligned with this future. It was noted that share prices have moved to reflect this and as policy continues to evolve, so will the pricing response. However, the perennial question of whether climate change has been "priced into markets" will be a moving feast for some time to come.

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Business model transition

One of the key focus areas for managers is the appraisal of how company management and boards might be transitioning their business models in response to these risk and opportunities.

Much of this discussion was focused on high emitters within the energy sector but managers also discussed transition opportunities within other sectors to a lower carbon world (e.g. the auto sector manufacturers).

The key determination for managers is forming a value judgment around the form and speed of transition (i.e. appropriate, too slow, too fast). Going too slow or too fast both have the potential to destroy shareholder value. At one end of the spectrum is stranded asset risk and exposure to rising input costs (e.g. carbon price/ tax). At the other end is overpaying for the transition to renewables or investment in conceptual technology solutions, which may prove unscalable or unnecessary. It was the opinion of some managers that the potential of carbon capture and storage (CCS) could insulate those energy players and/or heavy industry emitters choosing not to go down the path of alternative sources of energy generation.

These scenarios were generally presented as a comparison of approaches being taken within specific sectors, particularly energy. Discerning which companies are truly transitioning versus tokenistic efforts is naturally a key focus for managers focused on long-term sustainability but key is the probability of success or failure! In practical terms, managers are assessing these transitions as a combination of legacy operations and transitions impacts within their long-term valuation frameworks.

ExxonMobil, which back in 2013 was the world's largest publicly listed company, was an example raised of how much pressure some companies are under to expedite their transition towards a cleaner energy generation mix. In this case, the company remains relatively resistant to this pressure, with a preference to focus on its existing fossil fuel operations (despite a number of targeted investments) and return cash to shareholders, rather than investing in return diluting renewable energy projects. However, Exxon recently announced the creation of a new business focused on low-carbon technologies, with an initial focus on carbon capture and storage. Exxon already owns a 25% stake in the Gorgon LNG plant in Western Australia, which is the world's biggest carbon capture and storage project. Another example discussed by a number of managers was the auto sector, where the traditional auto manufacturers are getting more attention, particularly from value managers. However, managers are also buying these stocks for their future growth prospects, reflecting high conviction that leadership in electric vehicle (EV) sales and even automation/self-drive will ultimately emerge from this cohort, rather than Tesla or the technology giants. One value manager noted the highly under-appreciated EV transition of both the European auto companies and General Motors in the US. He went as far as to say they increasingly view these businesses as technology companies rather than depressed cyclical value stocks.

Linde plc was another commonly cited stock and one of the more interesting in the context of transition risks and opportunities. Linde is the largest industrial gas company in the world, making it one of the largest sources of carbon emissions for managers holding the stock. However, Linde is also likely to be a key player/beneficiary in the establishment of a hydrogen economy. The company commits around one third of its R&D budget each year to decarbonisation initiatives with potential application to many heavy emitting industries, including a meaningful investment in hydrogen fuel-cell vehicles (to compete with electric vehicles).

Managers commented that sentiment has been incredibly negative towards energy companies and auto stocks including those companies with a vision to transition their business models in future. In particular, value managers, could see an opportunity in energy and auto companies that is not recognised by the market and in alignment with the decarbonisation direction.

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Decarbonisation opportunities – renewables and beyond

The spectrum of decarbonisation beneficiaries being canvassed largely depends on how laterally managers are thinking about this opportunity set, beyond the renewables value chain and carbon mitigation.

The extent to which cross-sector themes (and adaptation) are a source of idea generation also appears to be a key driver of this breadth. In our view, this reflects the complexity of the disruption occurring, and the implications of non-linear transition pathways.

Perhaps contrary to consensus, value managers are also finding good breadth of ideas tied to the decarbonisation opportunity pool. One example is within the Materials sector and the mining sector more generally, reflecting the commodity intensity of renewable generation assets. This is not just about electrification, the role of copper within EVs and fortifying the grid, but also significant demand for the likes of steel (and therefore metallurgical coal) and alumina, which are also required to support the development of new generation assets like utility-scale solar farms. The potential for carbon-neutral products used in heavy industry and construction expands this opportunity set.

Diversity of ideas is particularly evident within the industrials sector, reflecting the more idiosyncratic nature of the business models within this sector. It was evident (across the style spectrum) that managers were also leaning into the more cyclical underpinning of the sector at present (with supportive long-term term decarbonisation tailwinds) under a post-pandemic scenario of economic recovery. This appeared to be the preferred exposure (relative to materials or energy) for managers implementing a more quality-driven investment approach.

It is common for managers to present climate risks and opportunities within the context of a transitioning world. This could relate to utility companies themselves, owners of the distribution network (transmission lines etc), the wind turbine manufacturers, the engineering contractors, or the copper miners for example. This is also the case within the EV supply chain, e.g. the auto manufacturers, the battery/component makers, or the upstream lithium miners. What differentiates the managers with true insights within these segments is deep industry knowledge within end markets; the competitive forces playing out amongst the key and emerging players (e.g. among the EV battery makers); as well as the evolving economics and policy dynamics. However, one manager noted “losing their shirt” in the past on a solar investment and the extent to which they remain very sceptical of anything resembling a commoditised product or service within renewables.

A hotly debated area within energy transition is the investment required into new technologies and their contribution to the future energy mix. More specifically, the extent to which Paris objectives are achievable from existing utility-scale renewable generation technology (e.g. wind, solar, hydro and nuclear) underpinned by rapidly declining cost curves (as is also occurring with battery technology) versus the potential of developing alternatives, such as a grid-scale hydrogen economy for heavy industry. Interestingly, hydrogen has also received considerable focus during our Australian February 2021 reporting season given the investments and observations being made by the likes of Fortescue and steel-maker BlueScope. A number of managers have strong conviction that hydrogen will be a disruptive technology, with rapid levels of investment behind this.

Despite the enthusiasm for emerging clean tech, it is clear the development of many commercially scalable and affordable sources is still some way off. This is a recognised risk identified by managers appraising early stage opportunities or indeed capital allocation decisions by corporates. At the other end of the spectrum is carbon capture and storage (CCS), which is the process of capturing CO2 at the source (e.g. a cement factory) and transporting/storing it (typically underground) so that it does not enter the atmosphere. The technology associated with CCS is also sophisticated, however, the reality is that fossil fuels are still burnt/CO2 generated. Advocates of CCS suggest this renders investment in new technology unnecessary and unproductive, assuming ongoing investment in utility scale renewable energy generation like solar and wind power. However, critics of CCS argue it is just an excuse for inaction by the fossil fuel industry, while underground storage is both dangerous and, in some cases, unproven (e.g. deep sea).

Managers are clearly interested in investment opportunities that involve decarbonisation, but also sceptical (both value and growth managers) that these opportunities might also struggle to generate commercial returns. This appears an area where manager stock selection skills will be critical – owning the right decarbonisation opportunities will be well rewarded, but other decarbonisation opportunities might simply be poorly returning investments.

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A bubble in renewables?

A number of managers noted extreme momentum emerging in so-called “green” stocks. Supporting this view is analysis from Morgan Stanley (Chart 2), which highlights significant multiple expansion within a cohort of 35 well-recognised ‘green’ stocks over the past 12 months, relative to their sector peers. This trend goes well beyond the commonly cited comparison of Tesla’s extreme valuation versus its auto comps. This analysis illustrates the elevated multiples for ’green’ stocks but also highlights the ’perceived’ winners and losers from decarbonisation are evident through both an intra-sector and cross-sector lens. While substantial growth in the demand for renewables cannot be ignored, this momentum and valuation risk should be front-of-mind for investors accelerating their decarbonisation efforts.

Chart 2: ‘Green’ stocks have re-rated

EU UTILS	Jan-20	Feb-21	Re-rating
Green stocks	27.3	43.9	16.6
Other	16.8	16.3	-0.5

US UTILS	Jan-20	Feb-21	Re-rating
Green stocks	24.1	72.4	48.2
Other	18.8	16.8	-2.0

EU CAP GOODS	Jan-20	Feb-21	Re-rating
Green stocks	19.5	41.3	21.8
Other	17.7	22.7	5.0

US AUTOS	Jan-20	Feb-21	Re-rating
Green stocks	77.5	191.2	113.7
Other	10.9	19.2	8.3

EU B&C	Jan-20	Feb-21	Re-rating
Green stocks	25.4	35.4	10.0
Other	14.6	15.1	0.4

CHINA UTILS	Jan-20	Feb-21	Re-rating
Green stocks	13.7	26.9	13.2
Other	14.2	14.4	0.2

EU OILS	Jan-20	Feb-21	Re-rating
Green stocks	17.4	34.2	16.8
Other	10.8	12.9	2.1

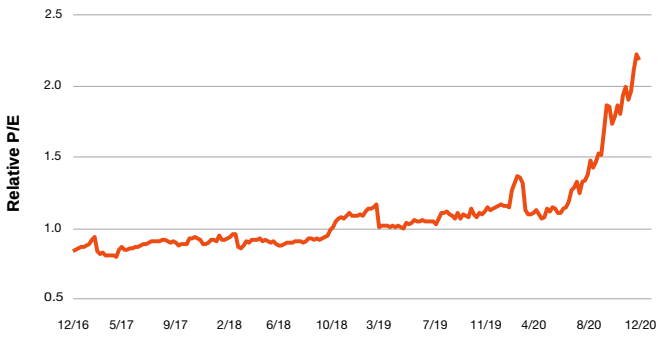
CHINA AUTOS	Jan-20	Feb-21	Re-rating
Green stocks	2.3	11.1	8.8
Other	2.8	3.5	0.7

EU CHEMS	Jan-20	Feb-21	Re-rating
Green stocks	22.2	26.0	3.9
Other	16.8	18.7	1.9

Source: Refinitiv “Green stocks” within each sectors are: EU B&C - Kingspan, Rockwool, Nibe Industrier, Sika; EU Cap Goods - Siemes Gamesa, Vestas Windsystems, Schneider Electric; EU Chemicals - Air Liquide, Croda, DSM, Johson Matthey, Linde, Umicore; EU Utils - EDPR Orsted; US Autos - Tesla; US Utils - Hannon Armstrong, Nextera Energy Partners, First Solar, Sunrun, TPIC, Solaredge Technologies; Asia Utils/Clean Tech - LONGi Green Energy, Tongwei, Goldwind, Zhongtian, Titan Wind, China Longyuan Power, Suntien Green Energy, CGN New Energy Holdings; Asia Autos - BYD, Nio

The high valuation of clean energy stocks is also illustrated in Chart 3 from Wellington Management, which shows the rapidly expanding P/E (two-year forward) of the iShares Global Clean Energy ETF versus the indicative P/E of the broader MSCI ACWI Index.

Chart 3: Momentum with clean energy stocks



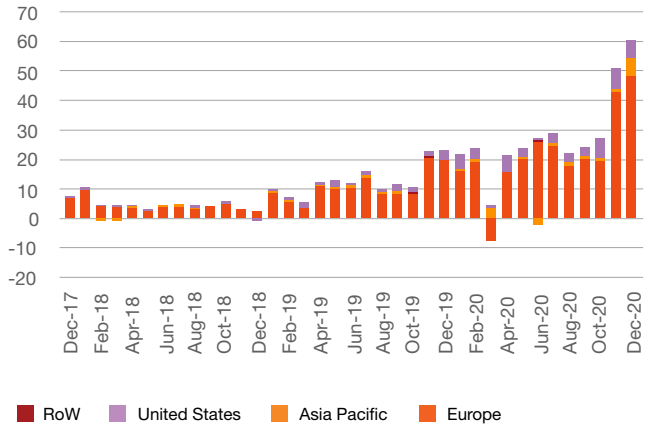
For illustrative purposes only | Indicates relative forward two-year price to-earnings ratios. Data as of 31 December 2020. | Source: FactSet

The momentum in stocks on the right side of decarbonisation is in no small part being driven by the weight of money being allocated to ESG/Sustainability-focused products (highlighted in Chart 4), and the growing list of strategies being aligned to the same principles. It is clear market participants are trying to get ahead of these real money flows, which are being underpinned by a number of key drivers, including regulatory and institutional investor commitments to decarbonisation; technological advancements; and changing consumer preferences. Chart 4 shows that flows into 'ESG-labelled' funds exploded in the second half of 2020 (particularly from Europe) following a steady increase over the past couple of years from a relatively low base. Net annualised ESG flows reached almost 30% of starting assets under management by the end of 2020 (Chart 5), in stark contrast to the broader market which was flat.

Even managers positively disposed to stocks directly benefitting from decarbonisation were of the view there had been a significant re-rating in a broader group of "weak, capital-intensive businesses" attached to this thematic. These discussions suggest managers are treading warily within the more commoditised areas of the renewables value-chain, despite the strong thematic tailwinds.

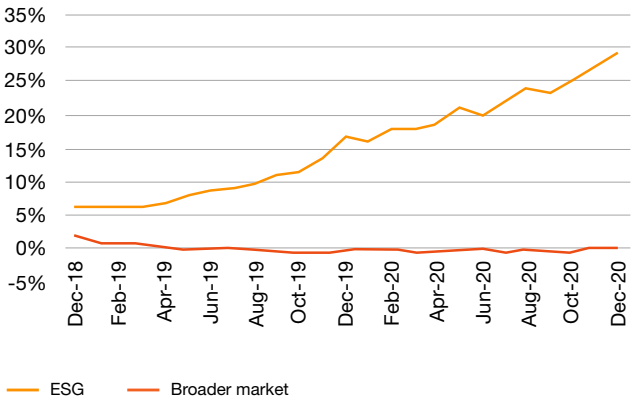
The view from many of the managers we spoke to is that the momentum in these green stocks raises the risk the demand upside is increasingly reflected in share prices, at least amongst the more obvious beneficiaries of the transition to a lower carbon global economy. The current entry point for investing in an ESG/Sustainability strategy may be exposed to valuation risk.

Chart 4: ESG fund flows by region ($b)



Source: Morningstar. Updated as of 9th February 2021

Chart 5: ESG fund flows versus broader market



Source: Morningstar. Updated as of 9th February 2021

Climate-driven process enhancement

Fund managers are enhancing their processes and participating in increased engagement/proxy voting to drive positive change within their portfolios. This is a direct response to the investment risks and opportunities associated with climate change and the transition to a lower carbon global economy, as well as pressure from stakeholders. Policy developments, while uncertain, will increasingly require asset owners and their external managers to meet threshold requirements for integrating climate risk considerations into their decision making.

For asset owners there are broadly two schools of thought to managing climate related transition risk – one being divestment (i.e. moving away from the risk), while the other is active ownership (being part of the change). However, those managers maintaining or even increasing their exposure to today's highest emitters, are for the most part undertaking increasingly detailed analysis on decarbonisation at both the security and portfolio level. This requires a forward-looking analysis of the changing regulatory landscape which likely entails; declining demand profiles; higher carbon pricing; and potential technological developments (including heightened risk of substitution) as it relates to exposed operations and reserves.

Enhancements to process are taking a variety of forms, with direct impacts on key valuation parameters (cash flow forecasts, discount rates and exit multiples). Examples include:

- Access to more comprehensive environmental reporting (including multi-scope carbon data (actual and estimated);
- Alignment with Task Force on Climate Related Financial Disclosures (TFCD) or other regulatory frameworks such as the European Sustainable Financial Disclosure Regulation (SFDR);
- Integration of third-party analytics from ESG rating providers and specialist research providers;
- More purposeful corporate engagement activity (including collaborative voting actions); and
- Increased scenario analysis.

Some managers are incorporating carbon value-at-risk (VaR) modelling to measure portfolio sensitivity to the rising costs of carbon pricing and expected policy change. This type of analysis is considered a more forward-looking approach to carbon sensitivity (particularly where it incorporates supply chain emissions) relative to more static estimates of emissions & reserve-based carbon footprinting. These enhancements to process, including engagement, are perhaps most relevant to managers taking the other side – that is maintaining (or adding to) fossil fuel exposures despite extreme headwinds and stakeholder pressure. The objective seems clear in either case – identify materially mispriced transition winners.

However, this type of VaR analysis is also highly relevant to a broader range of industry exposures exposed to the physical risks of climate change. For example, the exposure of the banks (through their lending books) to physical impacts of climate risk on their customers and by extension a weak economy or insurers failing to adequately price the risks of extreme weather impacts on major population centres. VaR analysis is relevant to other impacts such as declining agricultural yields (impacting consumers and suppliers); impacts on supply chains more broadly; or impacts on companies within the tourism and leisure sector. The key point is that physical risk of climate change exposes all portfolios to potential risks (and opportunities), which need to be managed. Decarbonisation alone cannot protect portfolios.

Our observation is that managers are increasingly devoting time and effort to enhancing their research processes around climate related impacts. We understand certain asset owners are managing climate-related transition risk through divestment of fossil fuels, etc, but we do not believe this is the only approach given fund managers are considering climate related and transition impacts in their research and decision making. Divestment can introduce the potential for a variety of other risks being introduced into the portfolio, including tracking error and basis risk in some circumstances.

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The power of engagement

Frontier's expectation is that all managers should be dedicating the necessary resources to actively engage with companies on material ESG issues, and this includes passive and quantitatively-managed approaches.

We think this is particularly important in assessing the risks and opportunities associated with decarbonisation and corporate transition. In turn, Frontier believes asset owners should be actively engaging with managers around their climate risk management strategy, starting with carbon reporting to ensure an accurate look-through on whole-of-portfolio carbon emissions.

It was evident from our dialogue with managers that even the 'laggards' are beginning to understand the power of engagement on broader ESG issues, beyond a traditional governance focus. In fact, many consider their engagement on environmental and social issues to be an increasingly critical component of their investment analysis. Engaging with a broader range of stakeholders on a wider range of issues is providing managers with a different lens through which to view a company's long-term strategy and where relevant, a clearer line-of-sight on decarbonisation transition pathways and progress milestones. Key for managers is having the basis to make an informed judgment of a company's strategic direction and foresight, including prudent investment/capital allocation decisions with respect to both existing and future operations. Analysis of long-term strategy has never been more important for some companies. Managers employing an engagement-focused approach to decarbonisation (rather than exclusion or divestment), appear more open-minded to adopting a more collaborative approach to engagement, alongside like-minded shareholders, and interest groups. As it relates to decarbonisation, this engagement tends to focus on ensuring clearer targets on emissions and transition timeframes.

One of the often cited goals of engagement (over divestment) for higher emitters is to increase the long-term probability of reducing emissions in the real economy, as opposed to shifting the issue to new shareholders either indifferent to or dismissive of climate risks. However, those more actively focused on divestment tend to make the case that resources need to be re-allocated more proactively to long-term climate solution providers, which in turn should raise the cost of capital of less sustainable businesses that continue to do environmental harm. For example, coal producers (where coal mining is their principal activity) are no longer able to borrow from the major Australian banks to support further projects.

Managers noted a trend of much higher interaction with their US-based clients on climate and broader ESG issues over the past few years, however, the level of engagement is still well-below that of their European and Australian clients. For example, a US$15 billion US-based growth manager noted it hadn't received a single question from its large US client base regarding its portfolio carbon metrics, which is in stark contrast to the volume of such requests from its non-US clients. However, several prominent and large scale US asset owners are moving very quickly on decarbonisation, well ahead of regulators and even global peers. Notably, a number of managers raised the example of the New York State Pension Fund, one of the country's largest, and its commitment to net-zero emissions by 2040 and its associated divestment plan for fossil companies without acceptable transition plans.


The New York Times

New York's $226 Billion Pension Fund Is Dropping Fossil Fuel Stocks

The fund will divest from many fossil fuels in the next five years and sell its shares in other companies that contribute to global warming by 2040.

Managers provided numerous company-specific and industry-focused examples of their engagement on decarbonisation issues, including:

- Ensuring remuneration structures and management incentives at an investee company were more closely aligned with publicly-stated decarbonisation objectives, with the aim of ensuring ambitious plans have incentivised actions.
- Engaging companies on how they measure their Scope 3 emissions (including the audit process), given the complexity of this data and inherent issues with the estimates provided by external data providers.
- Assisting companies with what to include within their first sustainability reports.

We have also seen a trend of some of the better resourced managers on ESG and sustainability adding further headcount in the area of engagement, including new leadership positions. It is evident this is being driven by a desire to be even more front-footed and impactful on achieving desired engagement outcomes. However, there is also a desire to promote those activities and the firm's ESG credentials more broadly. Being seen as a thought leader on ESG issues is becoming increasingly important to the prospects of managers and we see these ongoing investments as a recognition of this reality. Judging the true integration of ESG and authenticity of a manager's ESG culture is a critical part of our manager research process.

We see managers increasing engagement with companies around key decarbonisation initiatives and are positive on this direction. Frontier believes all managers should be dedicating the necessary resources to actively engage with corporates on material ESG issues, including passive and quantitatively-managed approaches.

Style implications

Climate change is a systemic risk with the potential to impact most industries to varying degrees (both directly and indirectly).

Therefore, institutional asset owners cannot simply avoid climate-related risks given the "universal ownership" nature of their diversified configurations. Companies operating within the energy and utilities sector appear most exposed to the risks and opportunities stemming from a multi-decade decarbonisation of the global economy; however, this will be a cross-style thematic. While value managers are more likely to be identifying undervalued transition opportunities within the oil & gas sector, the emerging clean tech opportunity set is more likely to get the attention of secular growth managers. However, there is a lot of opportunity in the middle ground which does not appear to have a high correlation with a manager's overall style characteristics, in terms of what is being targeted or avoided.

Outside of the alternative energy sector are transitioning oil & gas companies. However, it was notable in 2020 that even the deep value managers were avoiding the sector at a time of massive price dislocation (including oil futures briefly turning negative) and the obvious 'demand' coming from an economic recovery on the other side of the pandemic. The rationale given by some of the most fervent value managers not drawn to the energy sector at this time (at least to the degree they normally would be) is directly related to decarbonisation and more specifically the ongoing substitution of fossil fuels (particularly within OECD countries), as well as the declining marketability of energy stocks. These value managers are concerned about potential value traps and stranded assets.

These dynamics are particularly evident with thermal coal stocks. One dee value manager gave the example of a coal company trading at a 20% free cash flow yield with durable long-term demand and a significantly reduced debt load that was still not sufficiently attractive for the manager to be interested.

While acknowledging a personal bias against coal stocks, the manager's view was that unless these companies can be taken private it is difficult to make an informed assessment of their true value when there are seemingly only sellers and no long-term buyers! While long-term orientated managers are focused on ensuring that investee companies are transitioning to a more sustainable future, they are equally cognisant of those companies within the energy space aggressively reinventing themselves as renewable energy companies, in some cases at the cost of lower returning, questionable projects. A couple of managers noted their monitoring of increasingly competitive auctions for renewable energy leases, including "staggering" valuations being paid by energy companies in-transition.

Managers also pointed out decarbonisation beneficiaries are likely to be viewed quite differently by the market than how they have been historically. One such example cited was Utilities companies, which some now look upon as growth stocks based on enhanced future prospects. Others view this as justification of current valuation multiples after more than a decade-long compression in bond yields for these defensive, typically regulated utilities.

Frontier encourages its clients to address their portfolio's exposure to climate risk directly rather than as a by-product of style or factor tilts. While clients may consider reducing the weight to a value manager for example, given generally greater exposure to high emitting stocks, we are also cognisant that clients should be guarding against underweighting the value style in seeking a more carbon aligned portfolio. We also believe such an approach will limit exposure to many areas likely to benefit long-term from the transition to a lower carbon global economy.

Regulatory developments

The key regulatory issue raised by European managers was the EU Sustainable Finance Disclosure Regulation (SFDR) framework, the new European directive on ESG.

The specific detail and broad implications of this regulatory regime are beyond the scope of this paper. However, the SFDR imposes increased firm and product-level ESG disclosure rules for asset managers by establishing specific criteria and definitions for what constitutes a sustainable activity. One of the key objectives of the regulation is to create a more harmonised ESG framework to prevent product greenwashing. It is not overstating things to say that many of the managers we spoke to are wrestling with the appropriate ESG/sustainability disclosure level for their respective products and process, particularly whether they're likely to meet the threshold requirements to be classified as at least "light green".

The EU's establishment of an ESG taxonomy may prove highly influential in bringing forward similar regulation in other jurisdictions, while serving as a blueprint.

Key outcomes, implications and actions for asset owners

Right now, we observe asset owners adopting a wide variety of approaches and timeframes to decarbonising their equity portfolios and managing climate risks and opportunities more generally.

For some, significant action has already been taken to exclude investment in fossil fuels or lower the current carbon footprint of their portfolio. We have seen some recent congregation by asset owners around the notion of achieving a "net zero" emission (AKA "carbon neutrality) by 2050 in line with research from the Intergovernmental Panel on Climate Change.

We appreciate why the climate ambitions of asset owners can differ materially and why, for those just beginning the journey, it can seem daunting. In Frontier's view, a simple initial step to reduce the carbon footprint of an equity portfolio today is to reallocate some or all of the portfolio's passive exposure (where applicable) to a low carbon strategy with index-like characteristics. With regard to the active management component of portfolios, asset owners are also actively seeking out managers with strong climate change considerations (and broader ESG integration credentials), including those specifically targeting climate-based solutions. However, we recognise that undertaking substantive decarbonisation actions in portfolios today is not the only approach. From our discussion with managers, the majority of companies are changing future business models to align with the transition to a decarbonised world in the next 2-3 decades. While some asset owners are adopting more aggressive timeframes for decarbonising their equity portfolios today, others have adopted a flatter glide path. This seems a reasonable approach which aligns with the notion of asset owners actually driving positive change more broadly, particularly if we see continued change in business models and ongoing engagement with companies to align to a decarbonised future. In Frontier's view, there are trade-offs, risks and opportunities associated with both approaches. It is clear there is no single 'best practice' with respect to managing climate change in an equity portfolio. Each asset owner should determine its own objectives and understand its constraints when embarking down this path to ensure the approach is sustainable over the longer term.

The table below seeks to summarise some of the key manager observations from our virtual global equity trip, and more importantly the implications and any timely actions for investors. There are inherent risk and opportunities in almost all of these specific areas for managers and investors in building equity portfolios.

Decarbonisation risks & opportunities	Implications	Actions for asset owners
Decarbonisation accelerating	The decarbonisation of listed equity portfolios appears to be accelerating. Exposure to climate risks (transition and physical) may impact companies much quicker than the market or investors are expecting. However, these tailwinds also create a risk for companies overpaying for business model transition.	Monitor the resilience of portfolios to climate risks and opportunities, which will be critical to delivering superior risk-adjusted returns.
Physical climate risk	Decarbonisation alone (reducing a portfolio's carbon footprint exposure) won't protect portfolios from broader sources of climate risk (e.g. physical).	Investors should be thinking beyond carbon footprints in analysing the climate resilience of their portfolios, including both transition & physical risks.
Corporate transition	Long-term investors are focused on the opportunity to identify companies able to truly transition to a more sustainable future versus more tokenistic efforts or even those companies that may be transitioning too quickly in response to stakeholder pressure (at the cost of returns).	Monitor the decision making of external managers in assessing and pricing the long-term transition of investee companies, with respect to both existing and future operations.
A cross-sector, secular disruption	Decarbonisation beneficiaries exist beyond the renewables value chain and mitigation, including adaption and mispriced transitions. "Losers" go beyond the high emitters - particularly as an outcome of physical risks.	Investors should be adopting a broad lens in assessing portfolio risks & opportunities stemming from decarbonisation and climate change.
Emerging climate technology solutions	A major area of debate within energy transition (and amongst managers) is the necessity (or not) of new commercial scale technology solutions to meet Paris targets and their likely role in the future energy mix. One argument is that existing technologies render investment in emerging technology like green hydrogen or CCS unnecessary. However, others sees these technologies as playing a critical role within heavy emitting industries and are investing heavily on the prospect of generating significant returns.	Monitor portfolio exposure to emerging clean energy technology mix. Governments are typically technology neutral but managers & asset owners need to take a forwarding-looking view on the outlook/impact of mix change (including disruption and obsolescence) as it relates to portfolio risks and opportunities.

Decarbonisation risks & opportunities	Implications	Actions for asset owners
Climate-driven process enhancement	Fund managers are actively enhancing their investment processes in direct response to the investment risks & opportunities associated with climate change (including engagement) and broader stakeholder objectives. For example, scenario analysis (e.g. Carbon VaR) will be a focus of APRA in scrutinising trustee management of climate risks.	Asset owners (and their managers) will need to demonstrate that they are appropriately addressing climate-related risk in portfolio decision making.
Power of engagement	Managers are investing in additional ESG headcount (including leadership positions) driven by the desire to be more front-footed and impactful on achieving desired engagement goals. Being viewed as a thought leader on ESG issues & engagement is becoming increasingly important to the prospects of both managers and investors.	Monitor the promoted engagement activities of managers for progress against specific objectives.
Geographic trends - US	Managers noted a trend of much higher interaction with US-based clients (with some exceptions) on climate & broader ESG issues over the past few years; however, engagement is still well-below that of European and Australian investors for example. US managers and asset owners are lifting the bar given higher expectations from stakeholders on ESG and climate integration. Despite improvement, this is still below integration in other markets.	Maintain a high degree of scrutiny on managers at an early stage of integrating climate and ESG factors into investment process - be wary of greenwashing versus a genuine focus on ESG culture and adoption.
A bubble in green stocks?	Managers noted extreme momentum emerging in so-called green stocks, reflecting significant momentum within environmental markets and renewable assets. The risk is that the positive tailwinds for decarbonisation beneficiaries may already be priced-in.	Valuation risk should be front-of-mind for investors accelerating their decarbonisation efforts through both passive and active management components.
New product	Reflecting the magnitude of the climate challenge and the capital it is attracting, managers are bringing new product to market, including both sector diversified climate strategies and more niche offerings (e.g. energy transition).	Consider both the quality & fit with the existing portfolio (not just carbon objectives) when allocating to climate-specific focused strategies.
Style observations	Value managers are more likely to be identifying undervalued transition opportunities within the oil & gas sector for example, while the more emerging clean tech opportunity set is more likely to get the attention of secular growth managers. However, there is a wide spectrum of opportunity in the middle ground which does not appear to have high correlations with Managers' overall style characteristics, in terms of what is being targeted or avoided.	Frontier encourages clients to address their portfolio exposure to climate risk directly rather than as a by-product of style or factor tilts. While clients may consider reducing the weight to a value manager for example, given generally greater exposure to higher emitting stocks, we are also cognisant that clients should be guarding against underweighting the value style in seeking a more carbon aligned portfolio.
Regulatory developments	The key regulatory focus of global equity managers in our review was implementation of the EU Sustainable Finance Disclosure Regulation (SFRD). The EU SFDR imposes firm and product-level ESG disclosure rules for asset managers, with the objective of creating a more harmonised ESG framework to prevent greenwashing. Non-European regulators, managers and asset owners are paying close attention to the SFDR developments given broader policy implications long-term for the classification and marketing of “sustainable” investment products.	Monitor implementation of the EU SFDR classification system, to the extent it serves as a blueprint for other regulators in defining sustainable product.
Your super, your future	ESG specific biases and action taken on decarbonisation have the potential to generate material benchmark risk (relative to SAA benchmarks), including exclusions and limits on a portfolio's carbon footprint.	Monitor exposure to regulatory risk such as YSYF and adopt strategies to manage, including portfolio completion strategies and consideration of a portfolio risk budget as an input into active portfolio decisions. Frontier is able to assist asset owners in this regard.

The final word

Climate change risks are a growing focus for Australian investors, with many taking a proactive approach toward reducing portfolio exposure to carbon emissions. In 2020, some of Australia's largest superannuation funds announced their commitment to "net zero" by 2050, aligning themselves with many global peers. While much of the heavy lifting on decarbonisation is expected to be achieved through policy development and innovation, APRA has made it clear regulated entities need to be thinking about how best to manage portfolio exposure to climate risk, both physical and transition.

Frontier views climate change as a high priority responsible investment issue facing long-term investors. We believe the effective management of risks and the capture of opportunities arising from climate change will reinforce the sustainability of investment performance. We think investors should methodically consider material climate-related factors when developing strategy and implementing portfolios.

Frontier considers international equities to be one of the most efficient avenues for investors to be decarbonising portfolios, given the diversification of global markets and the relatively low levels of carbon intensity compared to Australian equities (at an index level). There are several ways clients can reduce the overall exposure to emissions within their international equities portfolios, including allocating to a low carbon passive strategy and incorporating exclusions and/or positive screening.

We outlined steps to establishing a portfolio decarbonisation strategy within Frontier's recently released International Equity Configuration Review. This included various options to improve the climate resilience of client portfolios as illustrated below:

Climate-aligned implementation methodologies	Tracking error impact	Decarbonisation efficiency
Investing in passive/enhanced passive climate-aligned strategies	Low to moderate	Medium (depends on the strategy's carbon reduction objectives)
Investing with active managers that demonstrate integration of climate factors into their research and portfolio construction	Moderate to high	Medium
Invest specifically with managers that explicitly target strong ESG, sustainability, or climate outcomes in conjunction with conventional risk and return objectives	High	High

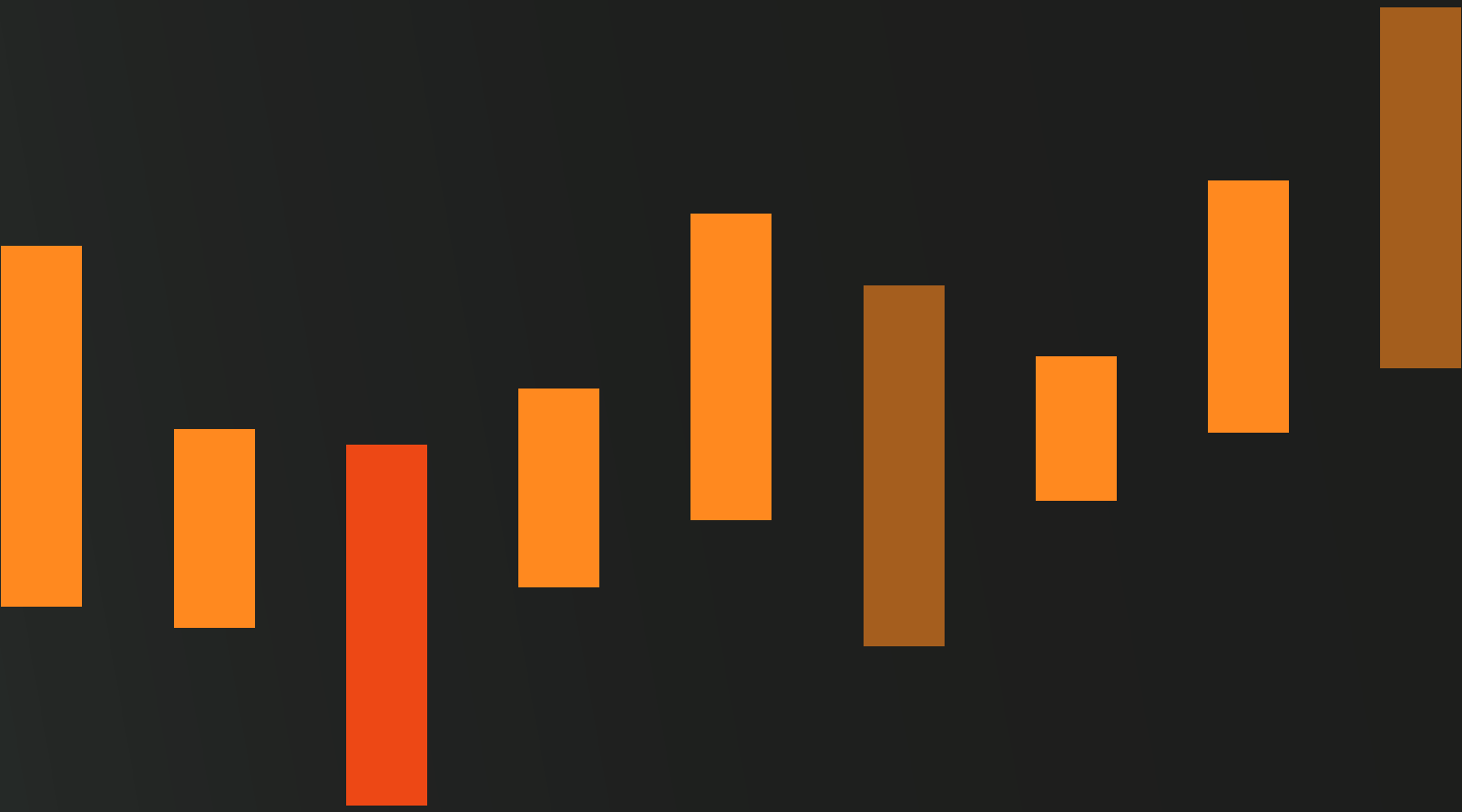
We recognise asset owners are targeting different client objectives however, we recommend investors:

- specify, clarify and prioritise values and objectives with respect to green and low-carbon investing
- understand the underlying trade-offs and costs of different approaches
- take a “whole of portfolio” approach and understand how changes will impact the portfolio more broadly
- set realistic timeframes for making any transitions
- update investment policy statements as required.

Frontier has recommended strategies across both passive and active areas of this opportunity set, including strategies more exclusively focused on climate solutions.

Want to learn more?

We hope this paper has generated lots of ideas for your own portfolios. If this is the case, please reach out to Frontier to discuss how we can work with you in this space.



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Frontier is one of Australia's leading asset consultants. We offer a range of services and solutions to some of the nation's largest institutional investors including superannuation funds, charities, government / sovereign wealth funds and universities. Our services range from asset allocation and portfolio configuration advice, through to fund manager research and rating, investment auditing and assurance, quantitative modelling and analysis and general investment consulting advice. We have been providing investment advice to clients since 1994. Our advice is fully independent of product, manager, or broker conflicts which means our focus is firmly on tailoring optimal solutions and opportunities for our clients.

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