The four building blocks: ESG in systematic investment strategies

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realindex INVESTMENTS

Contents

Introduction

There has been a lot of debate on the various ways asset owners and investment managers can incorporate Environmental, Social and Governance (ESG) considerations into strategies and portfolios. Here we step back and classify all available ways into four basic techniques:

1. Universe construction

2. Risk exposure control

3. Alpha sources

4. Engagement and stewardship

There are pros and cons for each technique and its ease of use, and in general, they can all be applied in different measure. That said, a comprehensive, ESG-sensitive investment process should include components of all four.

In choosing how, and how much, investment managers and asset owners should ask a few questions:

What is the appetite for return when compared against ESG issues? Or: *how much underperformance can be tolerated for ESG principles and values?* There will be many occasions where these two objectives do not align exactly, especially in the short term. And while in the long term, the investment case for a tilt towards better ESG companies is quite strong, many headwinds can arise through market cycles and macroeconomic events. As an example, investment strategies that downweight higher carbon companies (through whatever mechanism) have seen recent underperformance on the back of price inflation and the Russia-Ukraine conflict.

How much tolerance exists for tracking error due solely to ESG effects? In the new world of YFYS[1], tracking error against the mandated benchmarks has become much more important. Even before these changes, asset owners were very careful to focus on the trade-off of active return (alpha) versus active risk (tracking error). Investment strategies that add tracking error purely through incorporating ESG effects are at a natural disadvantage in this dimension, so the benefit of better ESG outcomes needs to be balanced against this. This can be from both excluding and including stocks.

Is it possible to directly measure and control or exploit specific ESG ideas and insights? This idea applies to both risk exposures and return outcomes. We have to ask ourselves if direct reduction of some ESG risk (for example, exposure to carbon intensity) is:

- **Measurable:** is the data consistent in how it is measured and available in both breadth and depth?
- **Useful:** does it actually capture the ESG effect we want to reduce or enhance?

We also have to think very carefully about whether ESG ideas can be a source of return; not in the sense of a long term structural shift, but using some economic intuition as a way of cross-sectionally choosing between stocks.

Can we accurately attribute and document the outcomes to each source of ESG? In other words, how effective can we be at measuring how effective our efforts have been? This is more difficult than it sounds, due to issues with consistency and history across data providers, differences in definition of concepts and even changes in measurement technique over time.

We will explore each of the four techniques in detail and give examples of how Realindex builds them in to our investment processes. However we can summarise as follows:

Table 1: Summary of the building blocks

Building block	Implementation	Benefits and disadvantages
Universe construction	• Reduction of screening of universe through exclusion of certain stocks or sectors, or addition of new names.	• Simple and clear definition. • Markedly changes ability to engage. • Adds tracking error.
Risk factor control	• Construct a measure of relevant ESG factor. • Measure it against benchmark and portfolio, and then constrain or penalise.	• Definition of measured factor needs to be suitable. • Potential for tracking error increase. • Clear measurement of effectiveness.
Alpha sources	• Develop a source of economic intuition that is applied through an ESG channel. • Apply and test rigorously like any alpha source.	• Data consistency and history is important • Insight can be very additive as it is not well explored
Engagement and Stewardship	• Select stocks that have a sizeable position in the strategy and have an issue that can be addressed by engagement. • Use a longitudinal (multiyear) approach.	• Can see change over time. • Can directly influence management and board. • Has lower breadth but greater depth of engagement.

1. Your Future Your Super

1. Universe construction

The most straightforward approach to reducing exposure to negative ESG stocks is to simply omit them from the universe.

This so-called "negative screening" is also probably the simplest and clearest approach to managing ESG risk within portfolios, as it is explicit by stock name. Obvious examples are excluding stocks which are associated with tobacco production, generation or use coal-fired power, or which violate UN Global Compact (UNGC) principles.

We argue that there is a place for exclusion of stocks in this way, and we use it in many portfolios. However, it is a blunt tool. As we see in the next section, an alternative to this (or indeed, to be used in combination) is to reduce aggregate portfolio exposure to a negative ESG issue.

While the decision to exclude is primarily one of ESG principles and values, rather than return and risk, the investment manager will also be making a return/risk decision at the same time. By excluding a stock from a universe, it is effectively being assigned zero weight in the portfolio, which means a maximum underweight (equal to its benchmark weight) and the tracking error that goes with it.

So, the long term investment position might be that stocks with high carbon intensity will be gradually sold down as they fall further out of favour – in effect, an alpha source. As there is also the issue of added tracking error – from the underweight – the investment manager will be trading off active return against the active risk of the exclusion.

However, in recent times, we have seen high-carbon-intensity stocks (mostly in the energy sector) run hard due to inflation expectations and oil and gas shortages from the Russia-Ukraine conflict.[2] This has had a significant negative effect on the return and risk of carbon aware strategies which were underweight carbon intense stocks for ESG principles and values, or for return and risk expectations, or both. This has made investors acutely aware of these risk and return trade-offs.

An excellent example in Australia is Whitehaven Coal[3]. This is a company which mines thermal coal and generates nearly 100% of its revenue from this source[4], making it a natural exclusion stock for investment strategies which exclude based on Scope 1 and Scope 2 carbon intensity[5].

In recent times, coal prices have run up very strongly – firstly, on the back of post COVID stimulus driving an economic rebound, and secondly with energy supply constraints following the Russia invasion of Ukraine.

2. This is clearly a short term effect: longer term we (and most others) expect to be rewarded by a tilt away from negative ESG stocks.
3. https://whitehavencoal.com.au/. The longer term risk of investing in this firm is of course Australia's position under the Paris Agreement, where we need to be out of thermal coal by 2030. This stock information does not constitute any offer or inducement to enter into any investment activity.
4. Source: company documents
5. Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Carbon intensity is tonnes of CO2e generated by a firm under Scopes 1 and 2, scaled by total sales in USD

Thermal coal has trended up very strongly, as seen by the chart below. This shows Newcastle coal futures (nearest expiry) over the last 12 months.

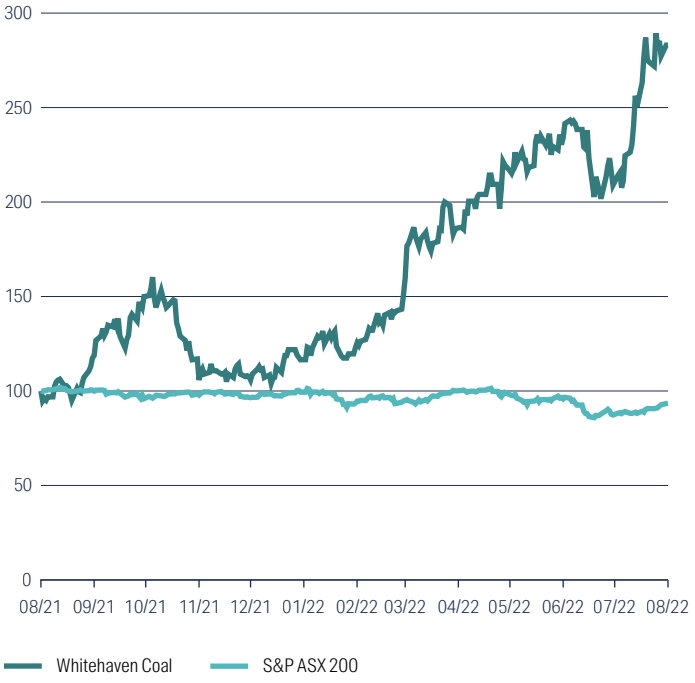
Newcastle Coal ICE Futures (Near Term, USD/t)

Source: Factset, August 2022

On the back of this, the next chart shows the most recent 12 months of Whitehaven Coal's performance compared to the S&P ASX200 index, from the start of August 2021. The data is indexed to 100 at that starting point. While the index is slightly down (-6.5%, in actual terms from about 7500 to about 7000), Whitehaven is up almost 300%, from $2.25 to $6.34. Excluding it from an ASX200 benchmark-aware portfolio would now constitute at 29bps underweight (it was 10bps 12 months ago). This is a noticeable alpha drag (around 30bps) from just one stock.

"The main downside to straight-out exclusion of stocks is that it removes any potential for engagement with companies."

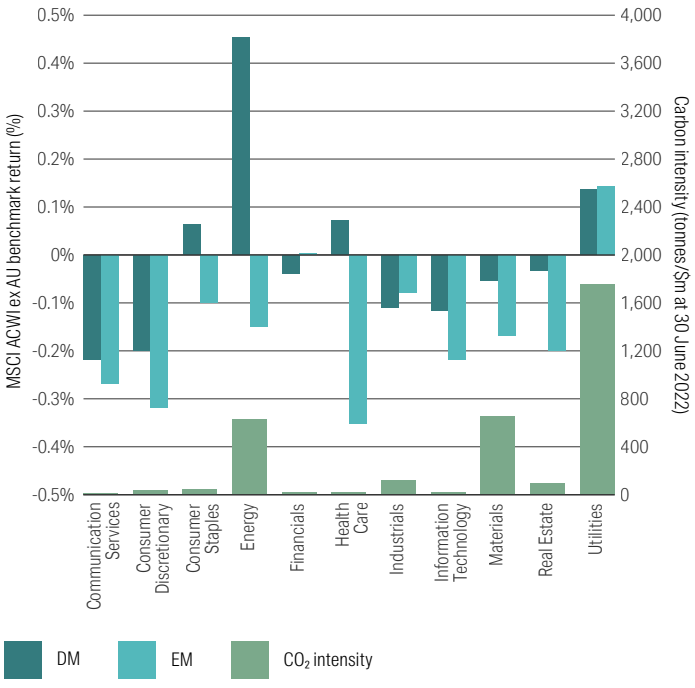
Whitehaven Coal v ASX200 (indexed to 100 at Aug 2 2021)



Source: Factset, Realindex – August 2022

More broadly, at a sector level, carbon intensive sectors have outperformed strongly recently. The chart below shows the 12 month returns to 30 June 2022 for MSCI ACWI ex AU sectors.

MSCI ACWI ex AU Sector returns 12 months to 30 Jun 2022



Source: Factset, Realindex – June 2022

The main downside to straight-out exclusion of stocks (for ESG rather than risk-return reasons) is that it removes any potential for engagement with companies with the intent of changing or at least influencing their behaviour and strategy. Companies, for their part, generally prefer to engage with shareholders to better understand their needs, explain their own actions and work together to achieve an outcome that is improved (even if they do not entirely agree). Recent examples in Australia include:

AGL	Shareholder activism led to a change in coal plant spin-off strategy[6]
Woodside	Shareholder activism acting to inhibit expansion of its Pluto LNG facility[7]
South 32	Cooperating with shareholders to set emissions reduction targets[8]

This stock information does not constitute any offer or inducement to enter into any investment activity.

There are also strategies that propose to actively add stocks that would otherwise not be part of the investment universe. These stocks have positive ESG characteristics and so are somewhat misleadingly called "positive screening". Here, the investment manager chooses stocks to be added that would not otherwise "make the cut" – but this means they may be very newly listed, small or illiquid, or even out of the benchmark/mandate characteristics for the fund. This again adds tracking error to the fund and potentially unrealised or unmodelled risk to the investor.

Identifying stocks that might fit here is more the precinct of impact investing or funds which are specifically targeting ESG issues over returns. Including them in investment processes like ours – which are still very ESG-aware – involves three types of issues that make their application difficult:

1. Simple availability of such names in sufficient number, or extreme valuations due to excessive demand matching short supply
2. Lack of data history for testing performance
3. Style and model drift – weighing up the benefits of new stocks that add ESG benefits at the expense of adding noise to return forecasts and extra risk to the portfolio.

Another way to capture this idea without actually adding stocks to the universe - which can be also be known as positive screening – might be to artificially up-weight stocks or to constrain their downside, independent of the forecasts of return and risk used in building the portfolio. For example, we might observe that a stock in our universe has very good ESG characteristics but otherwise is poor in forecast return. Forcing the portfolio to hold no less than benchmark weight (when the portfolio would optimally prefer to be underweight) can reduce the expected return of the strategy and reduce its efficiency (for example, other stocks with better forecast returns may be forced to be underweight).[9]

In Australia, the advent of the Your Future Your Super (YFYS) test – strictly aligning the performance of funds with known public benchmarks and penalising underperformance – has decreased tolerance of tracking error without a reward of expected return. In this new world, exclusion is less likely to be favoured.

For example, in the Realindex Australian Share fund[10], stocks that have high carbon intensity (and so might be excluded) have increased their contribution to the fund's ex-ante tracking error (the percentage of active risk caused by each stock's active position) over the last 12 months. The table below shows several examples – note that the chosen stocks are only overweights:

Contribution to active risk	August 2021	February 2022	August 2022
Whitehaven Coal	0.27%	0.47%	4.01%
Beach Energy	0.05%	0.04%	0.78%
New Hope Corporation	0.75%	1.15%	1.73%
Woodside Energy	1.05%	1.04%	3.91%

This stock information does not constitute any offer or inducement to enter into any investment activity.
Source: Factset, Realindex – August 2022

6. https://www.ft.com/content/3eb3c42d-d740-460e-a8d8-a9f499f4f1ce
7. https://www.afr.com/companies/energy/activists-try-to-halt-woodside-s-highly-polluting-gas-project-20220802-p5b6fn
8. https://www.cleanenergyregulator.gov.au/Infohub/Markets/cert-report/cert-report-2022/cert-2022-company?entity_id=100125165
9. This is different to applying an alpha model source (see section 3) as in that case we can achieve optimal exposure to expected returns.
10. Our flagship Value fund in Australian equities, please see Important Information section

2. Risk factor exposure control

Another approach that we use at the aggregate portfolio level is to measure and restrict minimum or maximum exposure to some common ESG factors. The most useful way to show how this works is with a live example.

Carbon intensity (tonnes of CO_2e generated by a firm under Scopes 1 and 2, scaled by total sales) is a common measure of the environmental impact of a company. It is not by any means the only measure, nor is it the most comprehensive[11], but it is well known and will serve our purpose well. It is also the preferred carbon emissions measure for the TCFD.[12]

When constructing an optimal portfolio, Realindex seeks to solve a mathematical algorithm that does three things at once:

- Maximises exposure to alpha ideas
- Minimises exposure to risks (to prevent unintended tilts)
- Minimises transaction costs in trading from the current portfolio to the new one

This process can easily be adapted to directly control of exposures to other measures – either relative to a benchmark or in absolute terms. For example:

- limit absolute portfolio exposure to a factor such as revenue from coal-fired power
- limit relative portfolio exposure to carbon intensity to a maximum percentage of the benchmark

It's important to realise that this is not done at a stock-by-stock level. Rather, it calculates the exposure in a portfolio or benchmark by taking each stock's exposure, multiplying it by the weight of the stock in the portfolio, and then adding them all up to get an aggregate weighted exposure.

The portfolio construction process then simply applies a limit (absolute or relative to benchmark) when the portfolio is being optimised. This tends to mean that the portfolio maintains a similar style and factor tilt but with the relevant reduction in the exposure of the targeted ESG factor.[13]

Note that while it is possible to do this by targeting a particular stock, region or sector, it is not efficient, in the sense that the risk within the portfolio is not optimally allocated. For example, certain ESG factors may be concentrated in sectors (e.g., energy or materials) or regions (e.g., emerging markets), so this approach can lead to unintended tilts in those directions.

11. For example, scope 3 upstream and downstream emissions are not considered (but are hard to measure), or if sales revenue naturally grows faster than scope 1 and 2 emissions (e.g., in a high inflation environment) there will be a natural downward drift in this measure.
12. Task force of Climate related Financial Disclosures (https://www.fsb-tcfd.org/)
13. In practice, our Global Diversified Alpha strategy constrains carbon intensity to be no more than 80% of that of the benchmark (in this strategy, the MSCI ACWI ex AU). So, while benchmark carbon intensity has trended down over time, our exposure has been lower and has trended down as well.

"A risk control approach limits exposure to a particular factor, but allows for engagement with companies."

We often find that this risk control approach is preferred by clients, rather than exclusion, as it still limits their exposure to a particular factor, maintains the overall portfolio exposure and also allows for engagement with companies.

A particular example of interest is (b). In the Realindex Value strategies, the current cheapness of higher carbon intensity stocks (e.g., energy and utilities) potentially leads them to have larger positions than stocks with less carbon intensity. So while the Value style is captured and exploited well, the portfolios can inherit larger carbon intensity factor exposures than might be desirable.

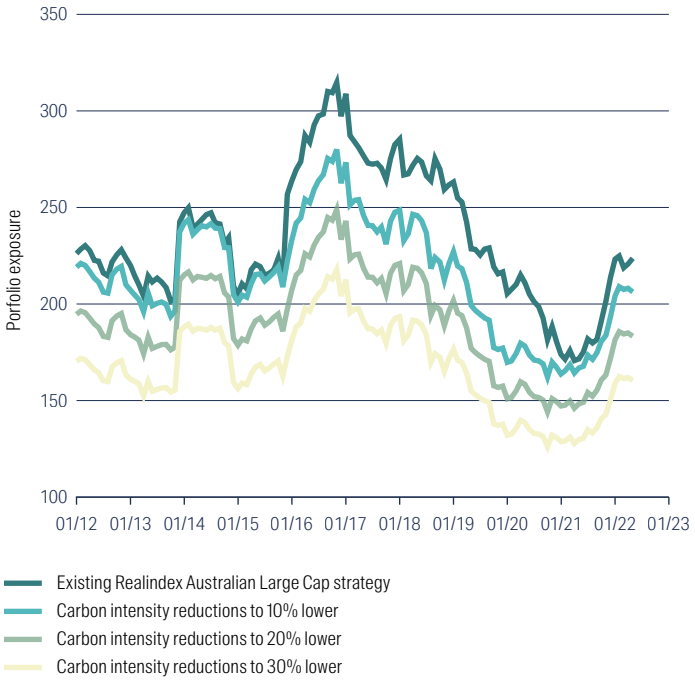
We can address this by applying the above methodology – building the optimal portfolio with a constraint or penalty on carbon intensity. The resulting portfolio then has better carbon exposure, but may then exhibit lower Value exposure than we wish to have.

We look closely at this below – and it yields interesting results. It appears that we can lower carbon intensity while retaining very similar Value exposure and characteristics, and with low tracking error against the existing strategies.[14]

To examine this, we construct optimal portfolios from our models that add increasing levels of carbon constraint to examine how alpha, tracking error and factor exposure change. Note that we reduce carbon intensity against the Realindex Core portfolio, rather than against the cap weighted benchmark.

Here we show the results for the Realindex Australian Shares strategy (large cap).

Impact of carbon intensity reduction



Source: Realindex, August 2022

Portfolio carbon intensity changes over time due to changes in underlying market characteristics. As we rebalance the portfolios to capture new information and the rebalancing alpha embedded in our process, we aim to retain exposure to better quality value firms. Economic cycles and market moves can mean that our carbon intensity exposure drifts over time – as we see in the above chart.

14. This is the subject of another Realinsights paper, currently in development, expected to be published in Q4 2022. There we drill down into these conclusions in a lot more detail

We also see that we can successfully rebuild our portfolio with constraints on carbon intensity. Note that we have retained everything else – the core process, the alpha model and the rebalancing and tranching process.

At the same time, the table below shows that there is little increased tracking error, and alpha is actually increased very slightly (this is sample specific – we do not have prior expectations of better or worse alpha). Note that here the alpha and tracking error are against the Realindex Australian Shares core portfolio, and not the S&P ASX 300 benchmark. This is a better comparison as we are aiming to reduce against the Core, as mentioned above. The second table shows that the value characteristics of the strategies with reduced carbon are largely unaffected, which is exactly the result we had hoped to see.

	Existing strategy	10% carbon intensity reduction	20% carbon intensity reduction	30% carbon intensity reduction
Active risk	0.99%	1.00%	1.02%	1.02%
Active return after cost (p.a.)	0.46%	0.50%	0.52%	0.55%
IR	0.46	0.50	0.51	0.54
Avg turnover (1-way)	26.3%	26.5%	26.7%	26.7%
Avg no. stocks	141	142	144	145

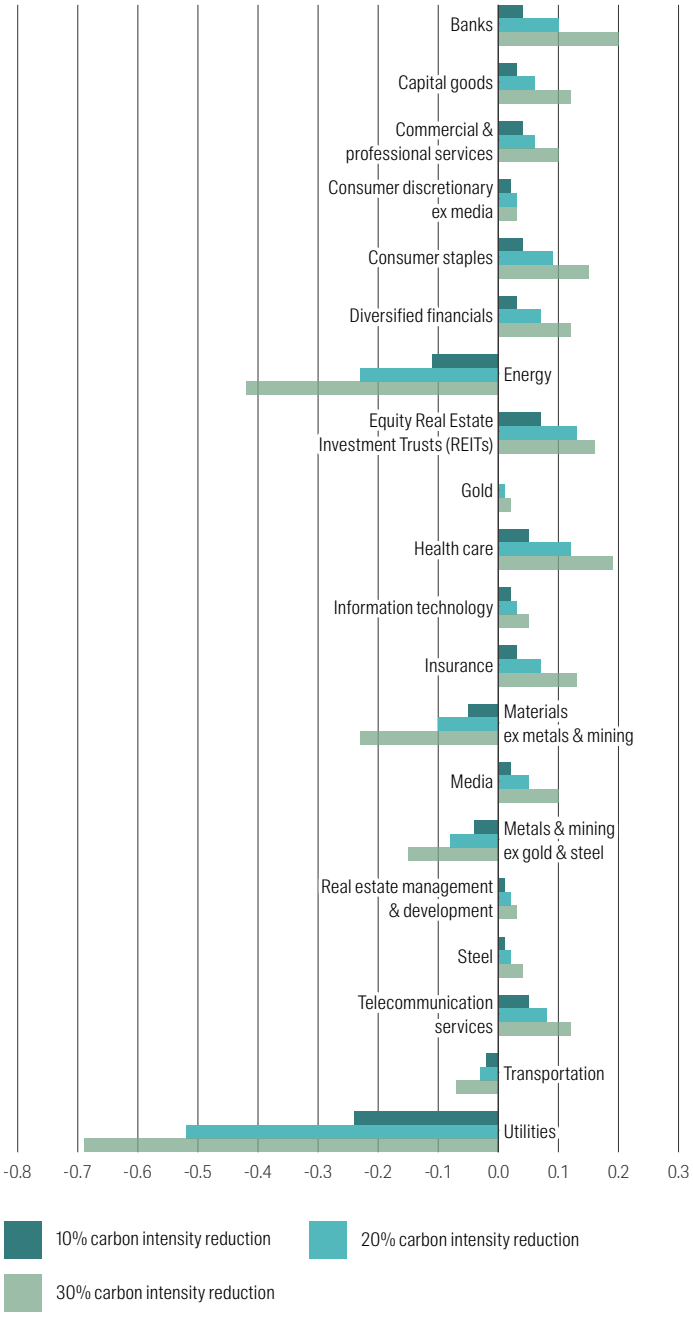
	ASX300	Existing strategy	10% carbon intensity reduction	20% carbon intensity reduction	30% carbon intensity reduction
Price to book	1.95	1.73	1.74	1.74	1.73
Dividend yield	4.0%	4.4%	4.4%	4.4%	4.4%
Sales yield	52.5%	79.3%	79.3%	79.4%	79.5%
Cash flow yield	8.4%	10.3%	10.3%	10.2%	10.2%
Earnings yield	4.8%	4.6%	4.6%	4.5%	4.5%
Forecast earnings yield	6.3%	6.9%	6.9%	6.9%	6.9%
Forecast dividend yield	4.3%	4.6%	4.6%	4.6%	4.6%

Source: Factset, Realindex – August 2022

A natural question is: how does a Value portfolio rotate to lower carbon exposure without conceding any of the desired Value characteristics? The answer is that we see sector rotation instead, as better value, carbon-heavy stocks are replaced with good value, lower-carbon stocks.

The chart below shows this – changes in the three reduction scenarios induce a rotation, primarily away from energy, metals/ materials and utilities towards banks, consumer staples, REITs, telecommunications and health care.

Changes in sector positions



Source: Factset, Realindex – August 2022

3. Alpha sources

Perhaps the hardest way to incorporate ESG into an investment process is via excess return (or alpha) forecast models. That is, conducting research which starts with ESG insights and leads to a way to consistently add value in a forecasting model.

At the best of times, with interesting insights and long data series of high quality, it can be hard to find any insights that (when tested) will add value to an existing model, let alone those limited to ESG issues. There are three primary reasons for this:

1. Many relevant ideas have been researched and "priced in" or exploited already by the market.
2. Models like ours are usually mature and chock-full of great ideas already.
3. There can be a lot of smoke and noise around potential alpha ideas that lead to nothing but can take up valuable researcher time.

In the ESG alpha research landscape, we need to be careful to realise that we are searching for something that is trying to fulfil two objectives at once:

1. If possible, reduce exposure to bad ESG outcomes, increases exposure to good ESG outcomes, or both.
2. Incrementally adds value over existing sources.

As noted above, much ESG implementation is based on principles and values, not returns. It acknowledges that it is not trying to do both – but here, this is exactly what we are looking for. In other words, we want to find an economically relevant insight that also contributes to better ESG outcomes.

This can be a tall order. It is made more difficult (or perhaps just cloudier) by a rapidly changing data landscape and market pressure to explore this area at the expense of others. There is also the continued issue of "greenwashing", in the sense that there may be a temptation to add ESG signals to a model for marketing purposes rather than as actual, value-additive insights.

In our process, we have been fortunate (through diligent research, not luck) to find and implement a number of ESG alpha signals that are both value additive and which improve exposure to better ESG outcomes. Each starts with an economic or behavioural insight – typical of most of our alpha signals – and then views that insight through the lens of ESG metrics and data.

One such example is team diversity.[15] Improved diversity is often a desirable outcome under the 'S' aspect of ESG – that is, improved diversity can lead to better outcomes for the company through better decisions and a more inclusive culture. Using an extensive corporate identification database, we were able to

15. Our recent paper on this: https://www.firstsentierinvestors.com.au/au/en/institutional/insights/latest-insights/decoding-the-diversity-premium.html

investigate this claim, and found that gender diversity at the board and senior management level sharply improves profitability measures for a firm. Importantly, we also found that this insight was not something that had been fully priced in by the market. Hence we have an insight that incrementally adds value over existing sources as well as helping to improve exposure to firms that provide for greater diversity in their workplace.

For example, the table below[16] shows the cumulative benefits available to firms which are more diverse in terms of gender. It is well known that more diverse boards have better decision making and are generally better quality. Here we make this explicit by calculating the cumulative return on equity (ROE) difference between firms with low and high board diversity. Over five years, the difference is as high as 20%. However, if we look at the more difficult measurement of senior management diversity, this increases sharply, to about 30%. This idea is the backbone of an alpha source now within Realindex models.

"Gender diversity at the board and senior management level sharply improves profitability measures for a firm"

% females on boards

Board diversity	Cummulative ROE				
	Year 1	Year 2	Year 3	Year 4	Year 5
Low	12.4%	24.5%	36.3%	47.7%	58.8%
Med	14.1%	28.2%	42.2%	55.3%	68.0%
High	14.7%	28.9%	42.9%	57.0%	70.9%
% Difference (high v low)	18.6%	17.6%	18.2%	19.4%	20.5%

% females in senior management

Management divesity	Cummulative ROE				
	Year 1	Year 2	Year 3	Year 4	Year 5
Low	12.1%	23.9%	35.3%	46.1%	56.4%
Med	14.1%	27.8%	41.4%	54.7%	67.9%
High	15.2%	30.2%	44.9%	59.2%	73.1%
% Difference (high v low)	25.7%	26.8%	27.3%	28.5%	29.6%

Source: Factset, Realindex – March 2022

Other examples we use include governance metrics, efficiency measured by carbon usage, and ESG incidents via news flow.

One (not-so-obvious) point about these alpha ideas is that they should stand or fall as alpha sources regardless of the fund. A good alpha idea is a good alpha idea no matter where it is applied, as long as it suits the strategy (e.g. fast burn vs slow burn, customised vs generic alpha mix). So we apply our ESG alphas everywhere within our alpha models, regardless of the ESG sensitivity of the fund – they are primarily alpha sources that just happen to be in the ESG space.

16. Our recent paper on this: https://www.firstsentierinvestors.com.au/au/en/institutional/insights/latest-insights/decoding-the-diversity-premium.html

4. Engagement and stewardship

In some sense, stewardship of the investment portfolio and engagement with companies which we own on behalf of clients is the other side of the coin to exclusions. If we exclude, it is much more difficult to engage, although not impossible. If we choose not to exclude, the responsibility then falls on us to measure issues of importance and engage with companies accordingly.

In general, we favour engagement over exclusion in two primary cases:

- For all companies except those explicitly excluded for policy reasons – for example, tobacco and controversial weapons manufacturers.
- When the company strategy and business model are flexible enough to allow it to adopt change in the right direction, and there is a channel for communication and sharing of views.

This covers most firms, so exclusions are the exception rather than the rule. That said, some industries or businesses are sufficiently inflexible - through a lack of options (e.g. tobacco firms) or through business strategy (e.g. stranded coal-fired power assets). We are also open to (and have implemented) customisation of client strategies to allow different levels of the exclusion/engagement cut off.

In terms of engagement, our process is as follows.

We try to use multi-year engagements with companies so that we can monitor their progress over time, and we find that we get better 'buy-in' with firms compared to one-off meetings. Due to the systematic nature of our large number of holdings, the bulk of this engagement tends to be focused on companies where we own the greatest percentage of the company so that we are more likely to have the attention of the company when we talk to them. Further, the systematic nature of our business means that the engagement tends to focus on ESG issues rather than reported numbers. Our focus at the moment is in three main areas: climate risk, modern slavery and diversity.

As part of First Sentier Investors, which is a signatory to the Net Zero Asset Managers Initiative, we are seeking to get all of our investee companies on the path to alignment under the Paris Aligned Investment Initiative Net Zero Investment Framework Implementation Guide. This includes getting companies to set short and medium term targets for a net zero goal by 2050, disclosure of emissions, and capital allocation plans. We are in the initial phase of these multi-year engagements and will follow up each year with their progress towards this alignment.

Due to the systematic nature of our investment process our engagement tends to focus on ESG issues. Currently our focus is on three primary areas: Modern Slavery, Climate Change and Diversity:

- In relation to Modern Slavery, our enquiries delve into any instances of modern slavery that have been observed and how they might have been addressed; for example, any remediation steps undertaken. Further, we are interested in determining if any staff training or modern slavery audits are conducted within their firms and across their various stakeholders (e.g., customers or suppliers).
- When it comes to Climate Change, we try to ascertain short, medium or long term carbon reduction targets (especially science based targets) they might have, and if a net zero 2050 target exists. Existence of a decarbonisation strategy, and any capital allocated towards it, are also critical questions.
- Finally, for Diversity, we ask whether targets are set for company and board diversity; indeed whether diversity is a key issue at all. In doing this, we attempt to uncover any policies/programs they might have in place.

As a systematic global manager, we need to allocate sufficient resources towards engagement so that the highest priority issues are addressed and dealt with. Deciding that cut-off can be delicate, so leveraging external data providers, participating in collaborative engagements and running longitudinal engagement (over many years) maximises our chances of driving meaningful change. For systematic investors, where we might own a large number of names, this is a very efficient way to engage. We can streamline our process by building structures for prioritising engagement and making the process more consistent, but it can only go so far.

"Our focus at the moment is in three main areas: climate risk, modern slavery and diversity"

Conclusion and summary

We have attempted to capture all mechanisms by which ESG can be built into investment processes, and summarised their strengths and weaknesses.

The key determining factors around choice of approach lie in four key areas:

- Appetite for trading off return against ESG issues
- Tolerance of tracking error
- Ability to measure and control or exploit ESG ideas and insights
- Attribution and documentation of the outcomes

"The incorporation of ESG into the Realindex investment process remains an important and ongoing area of research for our business."

The four building blocks, and their respective pros and cons, are summarised below:

- **Universe construction, through negative or positive screening**
  Simple and clear definition. Markedly changes ability to engage. Adds tracking error.
- **Risk factor control**
  Definition of measured factor needs to be suitable. Potential for tracking error increase. Clear measurement of effectiveness
- **Alpha sources**
  Data consistency and history is important. Insight can be very additive as it is not well explored
- **Engagement and stewardship**
  Can see change over time. Can directly influence management and board. Has lower breadth but greater depth of engagement.

Of course, any or all of these approaches can be applied, as they are not mutually exclusive (except perhaps in the case of stock level exclusion vs engagement). As responsible investors, it is important that we have a range of options at our disposal, to help drive positive change and to meet the needs and expectations of our clients.

Glossary of terms

Tracking error:	the volatility or risk due to the difference between the price behaviour of a position or a portfolio and the price behaviour of a benchmark.
Alpha:	a term used to describe an investment strategy's ability to beat the market, often referred to as excess or active return. Can be actual or forecast.
Carbon intensity:	a measure of how clean our electricity and production of goods and services is. It refers to how many grams of carbon dioxide (CO_2) are released by a firm in its usual operations, divided by the revenue of the firm (to make sure larger firms are not unduly penalised).
Active return:	same as alpha. The percentage gain or loss of an investment relative to the investment's benchmark
Underweight:	refers to either a fund owning less of a stock than is held in a benchmark index or an analyst expecting a stock to underperform.
Overweight:	opposite of underweight
Benchmark-aware portfolio:	An approach where portfolio construction and outcomes are defined or measured by the risk and return which comes from the benchmark.
Style and model drift:	the divergence of a fund from its investment style or objective.
Rebalancing and tranching:	refers to the process of returning the values of a portfolio's asset allocations to the levels defined by an investment plan or blending of these allocations over time.
Active risk:	same as tracking error. Risk that a fund or managed portfolio creates as it attempts to beat the returns of the benchmark against which it is compared.
Active return after cost (p.a.):	how much an investment gains or losses when compared to its benchmark after costs per annum
IR:	Information ratio is the measurement of portfolio returns above the returns of a benchmark (that is, its active return), divided by its tracking error or active risk.
Average turnover (1-way):	the percentage rate at which a fund replaces its investment holdings on an annual basis
Price to book:	a ratio comparing a company's market value to its book value
Dividend yield:	a financial ratio that shows how much a company pays out in dividends each year relative to its stock price
Sales yield:	a ratio showing how much investors are willing to pay per dollar of sales
Cash flow yield:	a valuation ratio that compares the free cash flow per share a company is expected to earn against its market value per share
Earnings yield:	earnings per share for the most recent 12-month period divided by the current market price per share
Forecast earnings yield:	predicted earnings per share for the upcoming 12-month period divided by the current market price per share
Forecast dividend yield:	predicted dividend for the upcoming 12-month period divided by the current market price per share

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