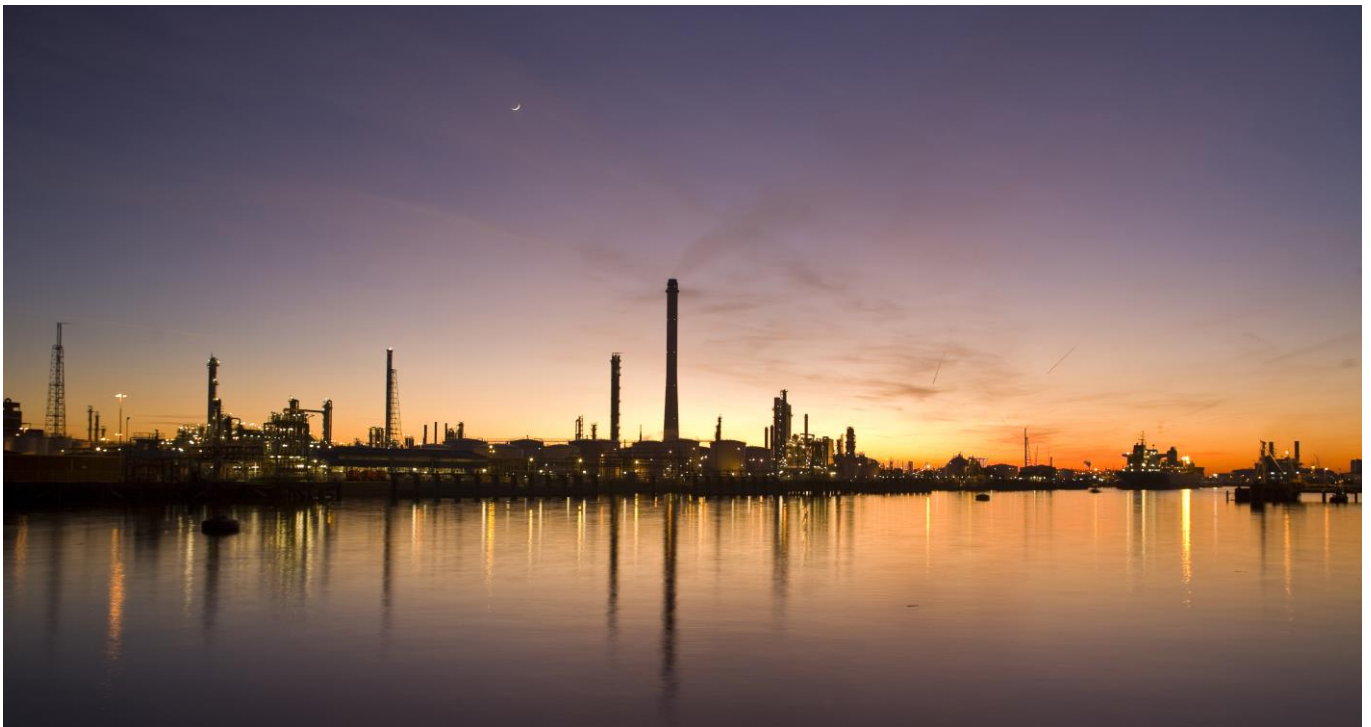


*Carbon Scorecard for global equity portfolios – A data-based approach to measuring risk, isolating key drivers and assessment through time*



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**Foresight Analytics™**

### Key Insight

- UN PRI and UN SDGs provide strong encouragement and a defined framework for investors to assess impacts of their investment decisions including carbon emissions and its impact on climate.
- Australia has the highest per capita greenhouse gas emissions in the OECD (26 tCO<sub>2</sub>e/person/year). The country has set its 2030 target to reduce its emissions by 26%-28% from 2005 levels.
- As an effort to achieve these targets, investors are actively seeking and demanding more advanced analytics on the impact of their investment decisions on carbon emissions and carbon risks.
- We demonstrate, using a data-driven approach, how advanced analytics can be used to assess carbon risks in portfolios, assess key drivers of emissions from security, sector, country and decision perspectives
- These carbon and sustainability analytics can be integrated with financial and investment matrix to allow super fund trustees and investors to measure, monitor, benchmark their portfolio's footprint to carbon.
- Data is now available to provide in-depth analysis across both equity and bond portfolios.

### UN PRI Initiative acts as a catalyst for global investors

In 2006, the United Nations-supported Principles of Responsible Investment (UN PRI), an investor-led initiative, was launched to foster the development of a sustainable global financial system, which “will reward long-term, responsible investment and benefit the environment and society as a whole.” Since then, there have been 1961 signatories with a total asset under management of US\$ 81.7 trillion<sup>1</sup> as at April 2018. The preamble to UN PRI has stated: “We recognise that applying these Principles may better align investors with broader objectives of society”.

### UN Sustainable Development Goals (SDGs) provide an important framework for Sustainability

Never have these “broader objectives of society” been more clearly defined than in the United Nation-supported Sustainable Development Goals (UN SDGs), which has been the very first generally agreed framework launched in 2015. The UN SDGs has quickly become a critical part of investors’ fiduciary duty, an unavoidable consideration for universal owners, a driver of global economic growth, a risk framework and a capital allocation guide of investors<sup>2</sup>.

UN SDGs has 17 global goals with 169 targets. The 13<sup>th</sup> goal, “Take urgent action to combat climate change and its impact”, specifically deals with Carbon, one of the truly existential risks to our world. Australia has the highest per capita greenhouse gas emissions in the OECD (26 tCO<sub>2</sub>e/person/year)<sup>3</sup>. The country has set its 2030 target to reduce its emissions by 26%-28%

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<sup>1</sup> The PRI (2018), <https://www.unpri.org/pri>

<sup>2</sup> The SGD Investment Case (2017), <https://www.unpri.org/download?ac=1436>

<sup>3</sup> The Climate Institute (2015), [http://www.climateinstitute.org.au/verve/resources/TCI\\_Australias\\_Emissions\\_Factsheet\\_Final-LR.pdf](http://www.climateinstitute.org.au/verve/resources/TCI_Australias_Emissions_Factsheet_Final-LR.pdf)

from 2005 levels<sup>4</sup>. As an effort to achieve these goal and target, investors have been actively seeking and demanding more advanced analytics on investment carbon footprint.

### Data-Driven Carbon Analytics can identify climate risks and opportunities

Advancement in data and analytics means fund trustees and investors can use an evidence-based framework to assess their portfolio's carbon risk and emissions footprint. Carbon data and analytics can help investors answer questions like:

- What is the portfolio's level of total carbon emissions?
- How does the level of emission compare against a specific benchmark and peers?
- What are the largest contributors and what are the effects of investment allocation and selection decisions on the portfolio's relative emissions to its benchmark?
- What is the weighted average carbon intensity of a portfolio and what are the potential carbon-related market and regulatory risks?

### Benchmarking Carbon Emissions against Market Index and Peer Group

When assessing the headline level of emissions<sup>5</sup>, one can take an absolute measure of the total tons of emission per year, day or month or put that in a relative context, either relative to the fund index and/or the peer group based on opportunity-set or style (size and risk factors).

Figure 1 below shows the relative ranking of global growth managers in the Foresight Global Growth manager universe. The first column ranks managers on total emissions while the second column ranks on the level of carbon intensity (emissions adjusted for revenue). The carbon, portfolio and index data is as at 30<sup>th</sup> June 2018 and assumes initial investment of \$5 billion.

The data shows that within investment styles, the variability of carbon emissions as well as the intensity of carbon emissions can be quite significant between managers of similar investment style. For instance, the most carbon emission light manager (Manager 1) is responsible for 11,735 tCO<sub>2</sub>e (tons of carbon dioxide equivalents), which is about 97% lower than if an equivalent investment was made into MSCI ACWI index. On the other hand, the worst ranked manager in the Foresight Global Growth universe is responsible for 583,718 tCO<sub>2</sub>e, which is about 15% higher than if an equivalent investment was made into MSCI ACWI index.

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<sup>4</sup> Australian Government, Department of the Environment and Energy (2016), <http://www.environment.gov.au/system/files/resources/9437fe27-64f4-4d16-b3f1-4e03c2f7b0d7/files/aust-emissions-projections-2016.pdf>

<sup>5</sup> Total carbon emission in this analysis takes scope 1 and 2 into consideration only. Scope 3 is not included. As defined in the Greenhouse Gas Protocol, Scope 1 emissions are those directly occurring "from sources that are owned or controlled by the institution, including: on-campus stationary combustion of fossil fuels; mobile combustion of fossil fuels by institution owned/ controlled vehicles; and "fugitive" emissions. Fugitive emissions result from international or unintentional releases of GHGs, including the leakage of hydrofluorocarbons (HFCs) from refrigeration and air conditioning equipment as well as the release of CH<sub>4</sub> from institution-owned farm animals". Scope 2 emissions are "indirect emissions generated in the production of electricity consumed by the institution". Scope 3 emissions are all the other indirect emissions that are "a consequence of the activities of the institution but occur from sources not owned or controlled by the institution "such as commuting, waste disposal, embodied emissions from extraction, production, and transportation of purchased goods, outsourced activities; contractor-owned vehicles, and line loss from electricity transmission and distribution".

Exhibit 1. Total carbon emissions and carbon risk of Foresight Global Growth Equity managers and the MSCI ACWI (30<sup>th</sup> June 2018, AU\$ 5 billion investment).



Source: Foresight Digital  
 Data source: Foresight Analytics, Thomson Reuters and Morningstar

### Drivers of Carbon Emission – Sector, Country and Security Level

Digging deeper into the drivers of emissions within manager portfolio can provide valuable insights across stocks, sectors, and regions.

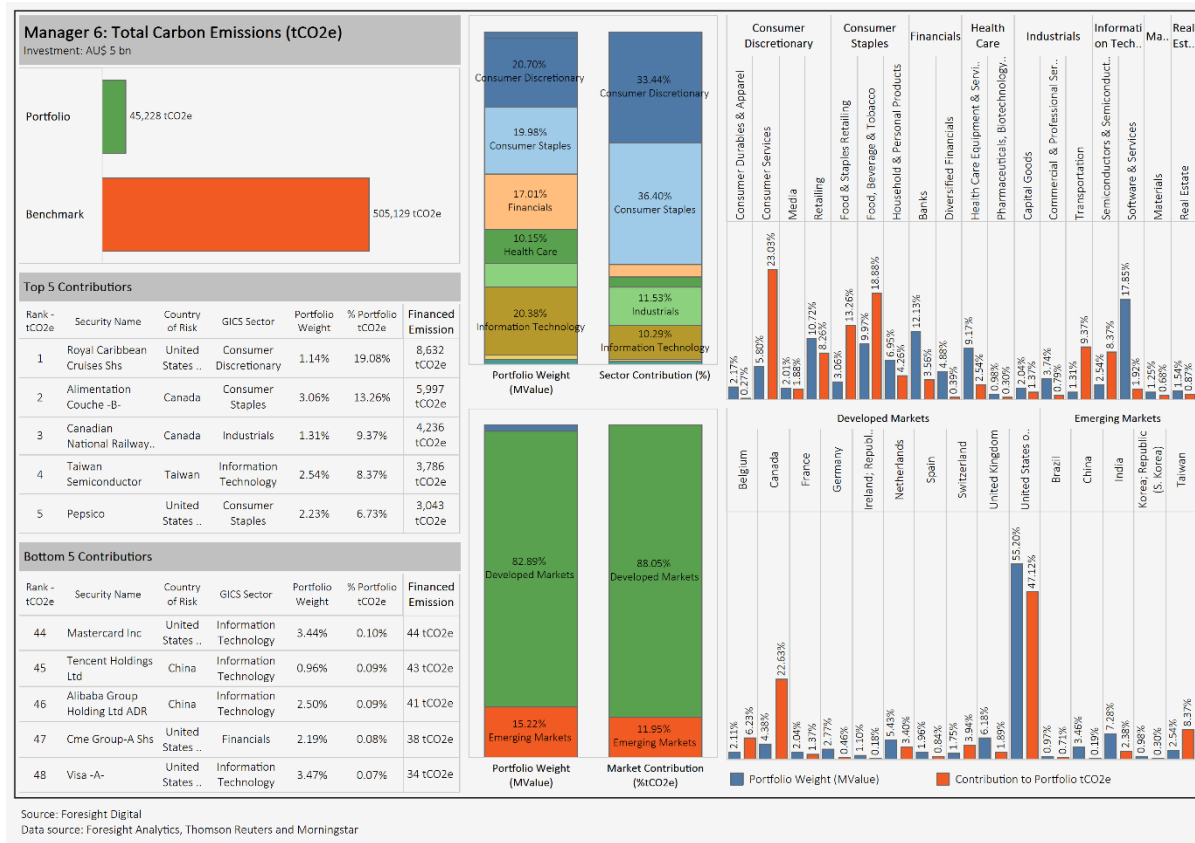
Figure 2 below shows the main drivers of portfolio carbon performance for Manager 6 – Von-tobel Global Equity strategy (VGES).

From sectoral perspective, while Consumer Discretionary, Consumer Staples, and Information Technologies were the three largest sectors by market value (accounting for approximately 20% each), they contributed more than 80% to the fund’s total carbon emissions. Further, the data shows that Consumer Staples is the biggest contributor with 36.4%, followed by Consumer Discretionary with 33.4% and Industrials came in third with 11.5%. It is quite clear that the fund’s capital is very evenly allocated across sectors while its carbon allocation is highly concentrated. We observe this tendency at the more granular industry level. For example, Consumer Services, Food - Beverage & Tobacco, and Food & Staples Retailing are the three dominant contributors of carbon with 55.2%.

From market perspective, there is no significant difference between the fund’s geographical capital allocation and carbon emissions. The fund’s biggest allocation to the USA accounts for 55% of capital and 47% of carbon emissions. The only exception to our general observation above was Canada which accounted for only 4.4% of the fund’s market value while it contributed up to 22.6% of the fund’s carbon emissions.

At the stock level, top 5 stocks which make up 10% of the fund’s total number of stocks and 10.3% of the fund’s market value, contribute more than half of the fund’s total carbon emissions. For instance, Royal Caribbean Cruises contributes the largest at 19.1%, followed by Alimentation Couche with 13.2% and Canadian National Railway with 9.4%. The next two largest contributors were Taiwan Semiconductor and PepsiCo, accounting for 8.4% and 6.7%, respectively. Stocks such as MasterCard, Tencent and Alibaba contributed the lowest levels of carbon for the portfolio.

**Exhibit 2. Drivers of Vontobel Global Equity’s total carbon emissions (30<sup>th</sup> June 2018, AU\$ 5 billion investment).**



From a regional perspective, developed and emerging market allocations of capital and contribution to carbon were pretty even. Capital allocations in China and India contributed much lower levels of carbon emission which was quite surprising to us.

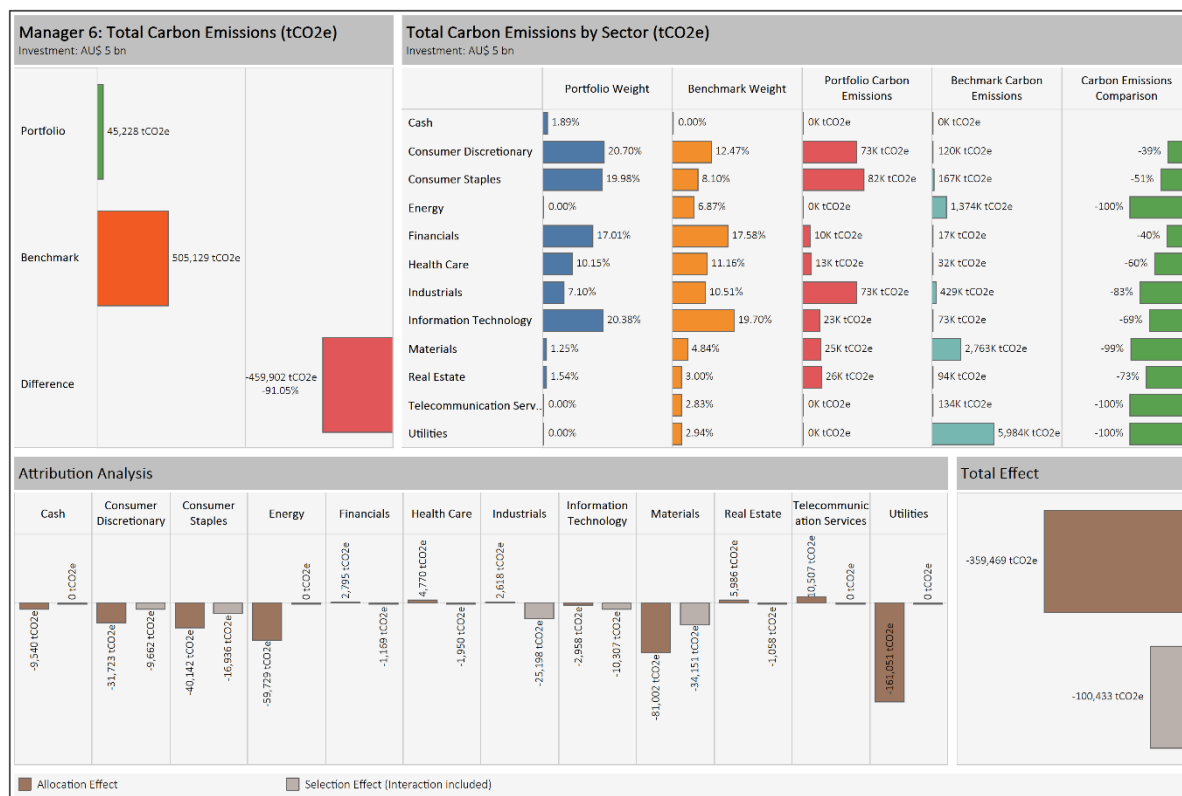
### Benchmark Relative Analysis – Impact of Investment Decisions on Carbon Emission

When compared to its benchmark at the headline level of emission, the fund outperforms the index with a total carbon emission of 459,902 tCO2e or 91%.

The data in Exhibit 3 shows that the main source of the fund’s carbon outperformance comes from its sector allocation decisions. By excluding and limiting the portfolio’s allocation to generally carbon intensive sectors such as Utilities, Materials and Energy, this has helped the fund reduce its emissions by 359,469 tCO2e relative to MSCI ACWI. In percentage terms, this sector allocation decisions (albeit bottom-up driven) accounted for 78.2% of the fund’s carbon outperformance.

The fund's stock selection decisions accounted for 100,433 tCO2e outperformance which in turn contributed 21.8% to the total carbon outperformance.

**Exhibit 3. Carbon emissions attribution analysis for Vontobel Global Equity vs MSCI ACWI (30<sup>th</sup> June 2018, AU\$ 5 billion investment)**



Source: Foresight Digital  
 Data source: Foresight Analytics, Thomson Reuters and Morningstar

### Drivers of Carbon Risk – Sector, Country and Security Level Intensity

Consistent with the emissions analysis, the fund also represents lower carbon related market and regulatory risk for investors. To the extent the global capital markets discount carbon risks of companies, a low carbon intensive portfolio represents lower systemic risk for investors.

The data presented in Exhibit 4 shows the fund's weighted average carbon intensity is 31.54 tCO2e per million of revenue derived from the portfolio companies as at 30<sup>th</sup> Jun 2018. In a relative context, it was 83.5% lower than MSCI ACWI and is also ranked number 6 out of 16 managers in the Foresight Global Growth manager universe.

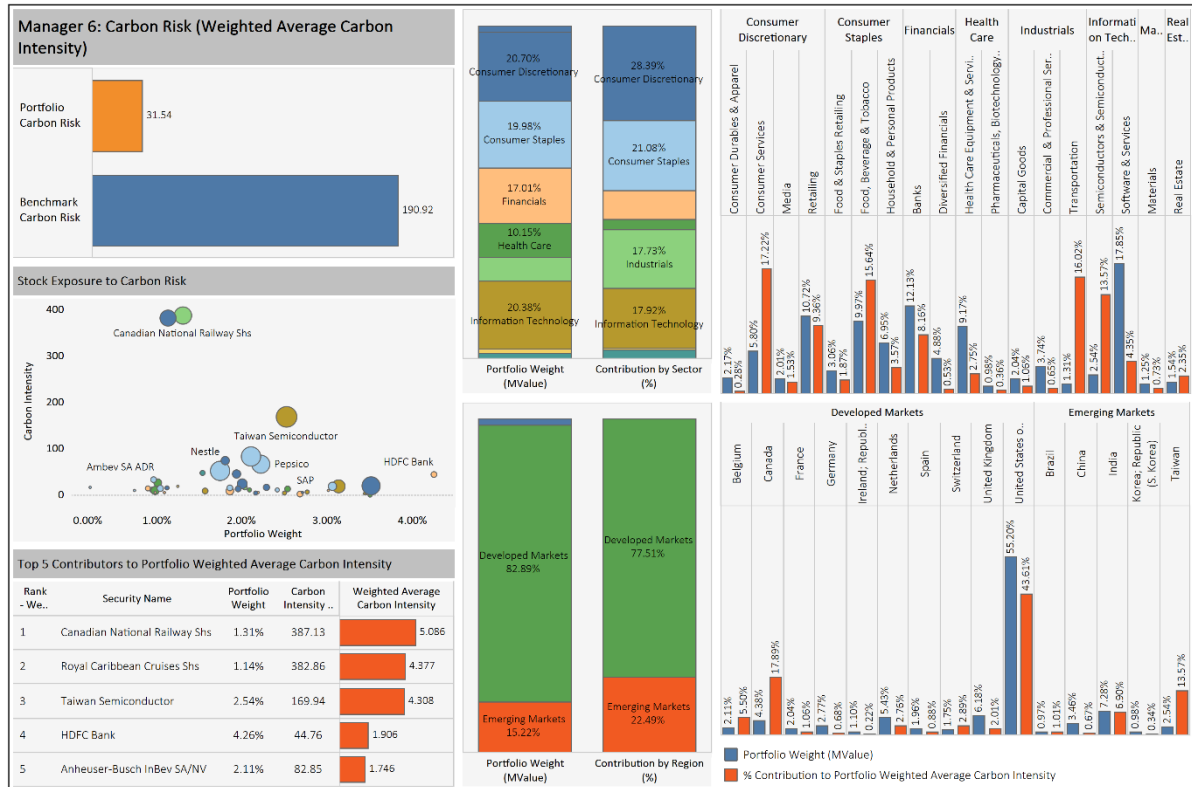
Unlike the total carbon emissions scorecard, the fund's carbon risk scorecard is more equally distributed across sectors. For instance, Consumer Discretionary, Consumer Staples, Information Technology and Industrials are still the four most important sectors by capital allocation, accounting for about 20% of portfolio assets each. From a carbon risk perspective, the US contributed 43.6%, Canada added 19.9% and Taiwan added 13.6%.

From a stock perspective, the top 5 stocks with the highest carbon risk contribution included Canadian National Railway, Royal Caribbean Cruises, Taiwan Semiconductor, HDFC Bank, and

Anheuser-Busch InBev, collectively contributing 55% to the fund’s weighted average carbon intensity.

In addition, the data shows that while emerging market allocation accounted for about 15% of the fund’s assets, it contributed almost 23% of the carbon risk exposure.

Exhibit 4. Drivers of Vontobel Global Equity’s carbon risk exposure across regions, markets, sectors and stocks (30<sup>th</sup> June 2018)



Source: Foresight Digital  
 Data source: Foresight Analytics, Thomson Reuters and Morningstar

### Benchmark Relative Analysis – Impact of Investment Decisions on Carbon Risks

When compared to its benchmark, the fund is significantly less exposed to carbon related market and regulatory risk, by 83.5%. At the sector level and unlike total carbon emissions across sectors, it is more exposed in the Information Technology and Financials with 18% and 116% higher than index, respectively.

The data in Exhibit 5 shows that the main source of the fund’s carbon risk reduction relative to the index comes from its sector allocation decisions. By excluding and limiting the portfolio’s allocation to generally carbon intensive sectors such as Utilities, Materials and Energy helped the fund reduce its risks relative to MSCI ACWI. In percentage terms, this sector allocation decisions (albeit bottom-up driven) accounted for 90% of the fund’s carbon risk reduction. The fund’s stock selection decisions within sector accounted for 10% of risk reduction.





Notes on Methodology and data

Holdings data for the benchmark and Foresight Peer Group was sourced from multiple databases including Lipper, eVestment and Morningstar. Corporate level data on carbon metrics calculation including companies' total carbon emissions, net revenue or sale in Australian dollar, market value in Australian dollar, GICS sector classification, and primary country of risk classification was sourced from Thomson Reuters, Datastream and Foresight computations. Holdings data and market value data is as at 30<sup>th</sup> June 2018. Other data is the most recent available. Given the use of multiple data sets and proprietary data integration approach, the overall coverage was very high across all portfolios and indices analysed.

Appendix A: Carbon Data Coverage (30<sup>th</sup> June 2018)

Data Coverage			
	Cash Holdings	Stocks with Carbon Data (% Market Value)	Grand Total
Manager 1	1.99%	94.95%	96.94%
Manager 2	1.05%	97.93%	98.98%
Manager 3	3.74%	94.24%	97.99%
Manager 4	6.13%	93.47%	99.60%
Manager 5	1.39%	97.28%	98.67%
Manager 6	1.89%	98.11%	100.00%
Manager 7	2.70%	97.30%	100.00%
Manager 8	5.01%	91.34%	96.34%
Manager 9	1.64%	97.12%	98.76%
Manager 10	4.89%	95.11%	100.00%
Manager 11		99.35%	99.35%
Manager 12	0.66%	93.10%	93.76%
Manager 13	2.01%	93.32%	95.33%
Manager 14	4.50%	95.50%	100.00%
Manager 15	1.10%	93.24%	94.34%
Manager 16	10.87%	84.62%	95.49%
MSCI ACWI NR		98.84%	98.84%

Source: Foresight Digital  
 Data source: Foresight Analytics, Thomson Reuters and Morningstar

About Foresight Analytics™

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