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# Investing in Response to Climate Change: RobecoSAM's Toolkit

RobecoSAM focuses on thought leadership and actions supporting sustainability investing. This is the starting point for proactively managing the many ESG issues that arise. When it comes to fossil fuels, we are focusing on reducing the carbon emissions associated with our portfolios while exploring avenues for selective engagement.

The divestment campaign aimed at fossil fuels (comprising producers of crude oil, natural gas and thermal coal) has placed a spotlight on the role of asset owners and managers in the run up to a global climate agreement at the upcoming UNFCCC<sup>1</sup> meeting in Paris in December 2015. Global population is rising, average incomes are increasing, and more people are seeking to be included in the managed energy system. The use of fossil fuels represents the largest contributor to atmospheric carbon dioxide and concentrations of carbon dioxide are rising to levels that risk triggering serious climate change. Yet, in the past, adjustments to the energy system have been very slow and usually measured in decades. Today's problem is neither small nor simple.

The investment industry is still adjusting to the magnitude of this challenge. The Asset Owners Disclosure Project (AODP) reports that among the top 500 asset owners, only 7% of assets owners are able to calculate the emissions associated with their portfolios, only 1.4% of asset owners have reduced the carbon intensity of their investments from the previous year, and only 2% of asset owners have an emissions intensity reduction target for the coming year.<sup>2</sup>

In this debate, RobecoSAM recognizes that climate change is the largest and most complex of sustainability issues, and that it is inextricably linked to many of the other challenges that we are concerned with, such as water scarcity, sustainable agribusiness, and resource efficiency. We are therefore keen to play our part in ways that reflect our role, approach and strategies. As an asset manager, RobecoSAM's approach is defined by our mission to achieve maximum returns for minimum risk while also delivering thought leadership and actions supporting sustainability investing. With respect to climate change, several of our thematic strategies already do this by identifying and investing in companies that enable the more efficient use of energy and natural resources and we now want to broaden this approach.

In June 2015, RobecoSAM became a signatory of the Portfolio Decarbonization Coalition. As part of this important move, we now provide background on our commitments to:

- Review the merits of selective fossil fuel divestment
- Commence engagement with the fossil fuel sector by focusing on electric utilities
- Aspire to reduce the GHG emissions attributable to our core investment strategies by 20% before 15<sup>th</sup> December 2015

<sup>1</sup> United Nations Framework Convention on Climate Change

<sup>2</sup> Asset Owners Disclosure Project, "Global Climate Index 2015"

## Limitations to divestment

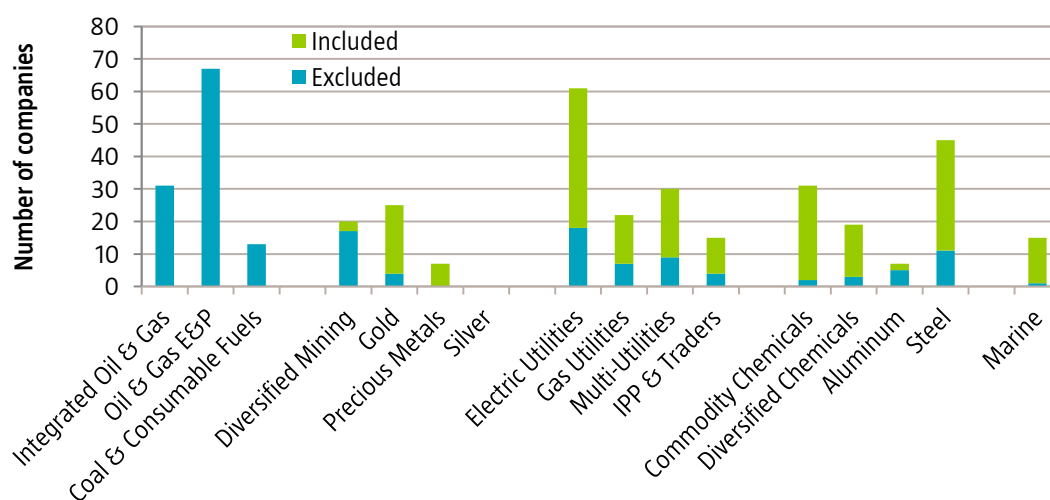
For some time, RobecoSAM has been considering whether to join the list of investors committing to wholesale fossil fuel divestment. One of the key factors we have considered has been the effect of divestment on our ability to engage with fossil fuel producers, understand the changes they face, and apply our knowledge to good investment decision-making as the transition to a lower carbon economy unfolds.

In portfolio management terms, fossil fuel divestment is essentially the application of an exclusion filter. One of the practical challenges we have faced has been determining whether we can create an exclusion screen that is comprehensive, efficient and consistent. In looking at what a consistent divestment approach looks like, and in assisting some of our institutional clients in meeting their own commitments to fossil fuel divestment, we have encountered a number of implementation issues that argue for a cautious approach. The three main issues are:

**Governments own the largest fossil fuel reserves, not companies:** Analysis such as the Carbon Underground list, based on the Top 100 publicly quoted owners of hydrocarbon (oil & gas) and coal reserves, is a helpful information source. One of its weaknesses, however, is the lack of connection to the true owners of fossil fuel reserves. The first paper to provide an industry-wide perspective, published in Nature<sup>3</sup> in January 2015, suggests that one third of oil reserves, half of gas reserves and 80% of coal reserves might go unused from 2010 to 2050 in the drive to limit the rise in atmospheric temperatures to 2 C°. These are the carbon reserves most at risk of becoming ‘stranded assets’ – natural resources that are no longer able to earn an economic return as a result of changes brought about by climate policy. This paper identified the largest risks as being to coal reserves in China, India, former Soviet Union, and oil & gas reserves in the Middle East. Some US and Canadian fossil fuel reserves are also at risk of becoming stranded assets. Recognizing the likely timeframes for change in the energy market – most regulatory or technological asset stranding is more likely to come after 2030 – the vast majority of these ‘at-risk’ reserves are currently still owned by governments and not companies.

**A significant number of fossil fuel companies are classified in other sectors:** We also looked at whether a simple exclusion screen could be developed based only on the Global Industry Classification System (GICS) sub-industries that relate to fossil fuel production. This certainly goes a long way towards identifying many of the fossil fuel companies, but we also found a significant number in other sub-industries that could only be captured by this approach at the risk of excluding companies with no involvement in fossil fuels. Figure 1 illustrates this effect.

Figure 1: What a full-scale upstream fossil fuel divestment policy would mean across sub-industries



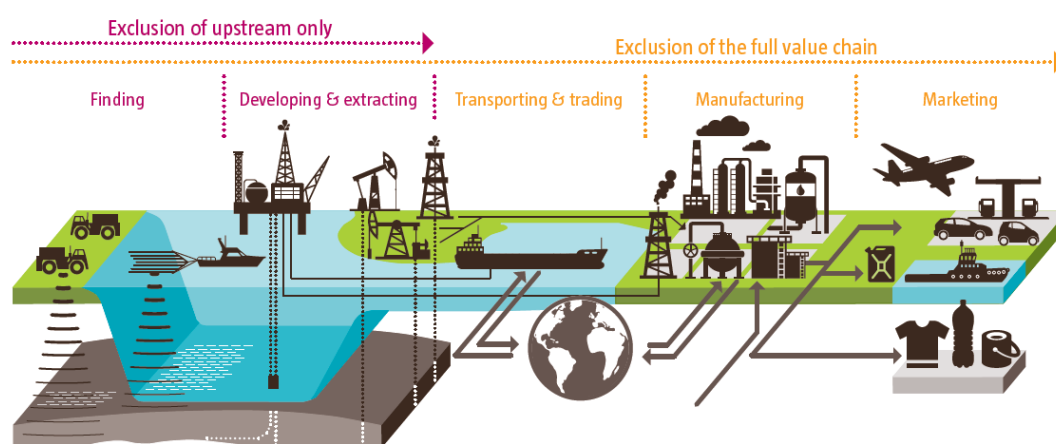
Source: RobecoSAM

<sup>3</sup> McGlade & Ekins: “The geographical distribution of fossil fuels unused when limiting global warming to 2 C°”, Nature vol 517, January 2015

**Business models represent a bigger and more imminent risk than stranded assets:** The focus on stranded assets may now be unhelpful to the discussion on fossil fuels to the upstream operators. Looked at more broadly, it is clear that the biggest hurdle to change in the energy sector is the need to radically re-orient business models including asset disposals, workforce reduction, investments in new assets (including alternative energy sources), new customer segments, and new supply chains. This is relevant to integrated oil & gas companies, independent exploration and production companies, midstream infrastructure companies, refining companies, oil & gas service companies, mining companies, and transport companies. It even extends to electric utilities and potentially also to automotive manufacturers. How this plays out will be a key driver of investment performance across these sectors.

A second question arises in terms of how to define the boundaries of the exclusion. The main issue here is determining where to draw the line in the energy value chain when the chain of events is long and complex. Figure 2 provides a simplified illustration of the differences between upstream (finding, developing and extracting) activities and downstream (transport, manufacture and marketing) activities that comprise the oil & gas value chain.

Figure 2: Different levels of upstream and downstream activities in the oil & gas value chain



Source: RobecoSAM

Similarly, the coal industry, which is made up of a shorter value chain, comprises an upstream segment (finding and mining) and a downstream segment (transporting), before combustion in power generation.

From the perspective of implementing an exclusion filter, identifying upstream involvement in fossil fuels is relatively straightforward because companies are required to report their reserves and provide disclosure on their operating activities. However, for companies that operate downstream or provide support to the sector, determining their economic interest in fossil fuels for the purpose of defining an exclusion boundary is more challenging. For some companies this boundary is clear, but others have only partial (but still meaningful) interest in the economics of fossil fuels. Ultimately, all of us heating our homes and driving cars are participants in this value chain. When looking at divestment approaches, all exclusion filters are required to establish a boundary. We have chosen the first stage of processing or consumption. However, it is necessary to recognize the arbitrary nature of this approach, which still leaves out power generation companies, large industrial consumers or companies, automotive manufacturers, and the consumers who are themselves dependent on fossil fuels.

In conducting our analysis of divestment, we have begun with the 3,000 or so companies that RobecoSAM researches as part of our annual Corporate Sustainability Assessment (CSA). For the sake of efficiency, we have focused our attention on sectors with the closest links to upstream fossil fuel activities and the rest of the value chain. Within the upstream segment, our analysis has identified 182 companies, 111 of which are in the GICS fossil fuel sub-industries, and another 81 that are in other sub-industries. Within the downstream segments, our analysis

has identified another 133 companies for exclusion, 106 of which are in the GICS fossil fuel sub-industries and 27 in other sub-industries.

Fossil fuel divestment makes a clear point about investment policy, and the work that we have done has helped us to identify the candidates for exclusion across a range of sectors. However, we have also encountered difficulties in framing an exclusion screen that captures the main contributors to carbon emissions, is internally consistent and for which we can apply a clear boundary. Important factors to consider include the overall scale of the divestment and the likely imbalances this creates in portfolio construction. As a result, we favor a more nuanced approach to exclusions that is based on more selective and measured decision-making.

## Launching Engagement

A number of large asset owners, including the Norwegian Government Pension Fund Global and CalPERS, have selected engagement as their main approach to addressing climate change. To date, a variety of frameworks have been put forward by, for instance, UN Global Compact, the Institutional Investor Group on Climate Change, and the Climate Standards Disclosure Board. These provide a benchmark for what an engagement with companies exposed to fossil fuel production could look like. Such approaches have been echoed in recent shareholder resolutions such as the Aiming for A campaign in UK, which has successfully presented resolutions to both Royal Dutch Shell and BP concerning their disclosure of climate strategy and the resilience of their operating portfolios. Likewise, Statoil has recommended and passed a similar shareholder resolution.

The topics covered in these frameworks include:

- Potential for business changes and disruption
- Appraisal of business model, strategy, risks and opportunities
- Governance and the points of view of senior management
- Disclosure
- Participation in public policy debate

While there is an emerging consensus on what an engagement framework could look like, the specific terms of this engagement still need to be defined further. We believe that additional collaboration between investors will be one way to ensure an efficient engagement process with companies on these points, including further use of shareholder resolutions.

RobecoSAM's Governance & Active Ownership (GAO) team has experience engaging with the automotive, extractive industries, and cement industry on carbon reduction. It is currently engaging with two other key sectors on this topic. First, it has initiated engagement with electric utilities companies. We have selected this sector because it is exposed to the more immediate pressures on business models, thanks to regulatory changes. The long life of some power generation assets also exposes this group to earlier risks of stranded assets. Our engagement is aimed at encouraging the implementation of proactive and ambitious environmental strategies, operational excellence in thermal generation, business model innovation, and participation in public policy debate. Over the course of the engagement, we expect to see electric utilities taking steps towards their own decarbonization. Second, we are engaging with retail real estate investment trusts. Here, our engagement is aimed at climate change management, license to operate, environmental management systems, owner engagements with occupiers, and energy and carbon reduction targets.

## Opportunities for portfolio decarbonization

In April 2015, RobecoSAM launched its impact investing platform with the Environmental Impact Monitoring tool, designed to be the first of a range of RobecoSAM impact investing solutions. The purpose of the tool is to quantify, communicate and optimize the environmental impacts of listed equity and corporate bond portfolios. It measures the impact of investors' portfolios in terms of greenhouse gas emissions (GHG), energy consumption, water consumption and waste production.

The starting point for the Environmental Impact Monitoring tool is RobecoSAM's Corporate Sustainability Assessment (CSA). Each year, the assessment of over 3,000 publicly traded companies enables us to build one of the world's most extensive research databases on corporate sustainability, including key environmental indicators for each company. This comprehensive database serves as the foundation for measuring, monitoring and managing portfolio impacts.

In measuring impacts, we begin by screening a portfolio to determine the aggregate environmental impacts of its holdings. For GHG emissions, we measure direct GHG emissions generated by sources owned or controlled by the company (Scope 1 emissions) and indirect emissions associated with the generation of purchased electricity or heat (Scope 2 emissions). The portfolio's exposure to each company's environmental impacts is determined based on the company's total capital (enterprise value) and the size of the portfolio's investment in the company. This is important because it means we can apply the tool to both equity portfolios and debt portfolios. The environmental impacts calculated for each company's exposure can then be aggregated to determine the total impact of a portfolio.

An attribution analysis relative to the portfolio's selected benchmark helps us determine whether the environmental impacts of a portfolio are driven by sector allocation or stock selection. The chart in Figure 3 shows such an attribution for a sample portfolio.

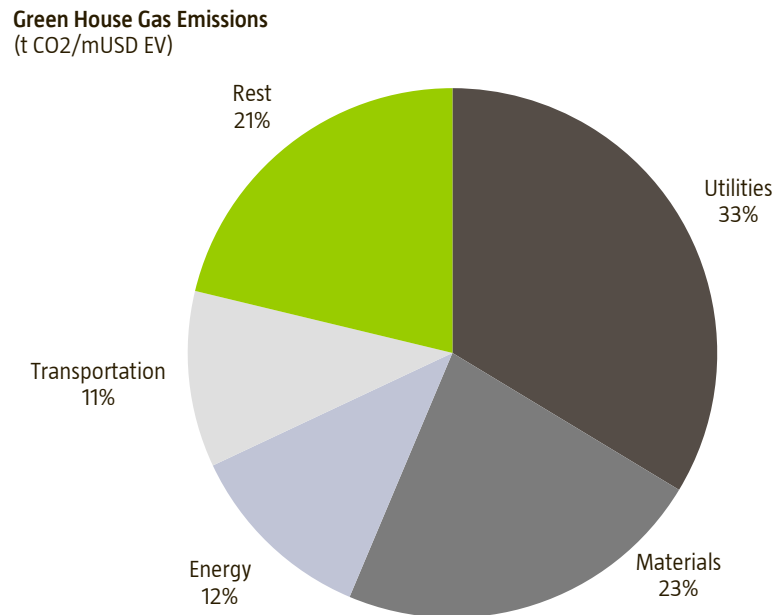
Figure 3: CO<sub>2</sub> emissions contributions: sample sector attribution

GHG Emissions - Scope 1 & 2	Active Weight	Allocation	Selection	Interaction	Total
Consumer Discretionary	1.0%	-0.4	-3.4	-0.3	-4.0
Consumer Staples	0.4%	-0.2	2.0	0.1	1.9
Energy	-1.0%	2.6	1.3	-0.2	3.8
Financials	0.2%	0.0	0.2	0.0	0.2
Health Care	-0.4%	0.0	0.1	0.0	0.1
Industrials	-1.0%	0.8	2.3	-0.2	3.0
Information Technology	-1.0%	0.1	-4.6	0.3	-4.2
Materials	1.0%	-4.3	12.4	2.3	10.3
Telecommunication Services	0.4%	-0.1	-0.1	0.0	-0.2
Utilities	0.3%	-3.0	8.7	0.8	6.6
<b>Total</b>		<b>-4.3</b>	<b>18.9</b>	<b>2.9</b>	<b>17.5</b>

Source: RobecoSAM

When it comes to the process of decarbonizing a portfolio, the results of our work to date have highlighted that this can be achieved by focusing on a narrow number of sectors and sub-industries that account for around 80% of the GHG emissions in a typical equity portfolio. As shown in Figure 4, the largest is the Utilities sector, from the combustion of coal and natural gas in power generation. Second is the Materials sector, from the use of purchased energy and the by-products of industrial processes. We also still see companies producing fossil fuels as responsible for a significant proportion of direct or purchased GHG emissions.

Figure 4: Source of GHG emissions in the MSCI World Index

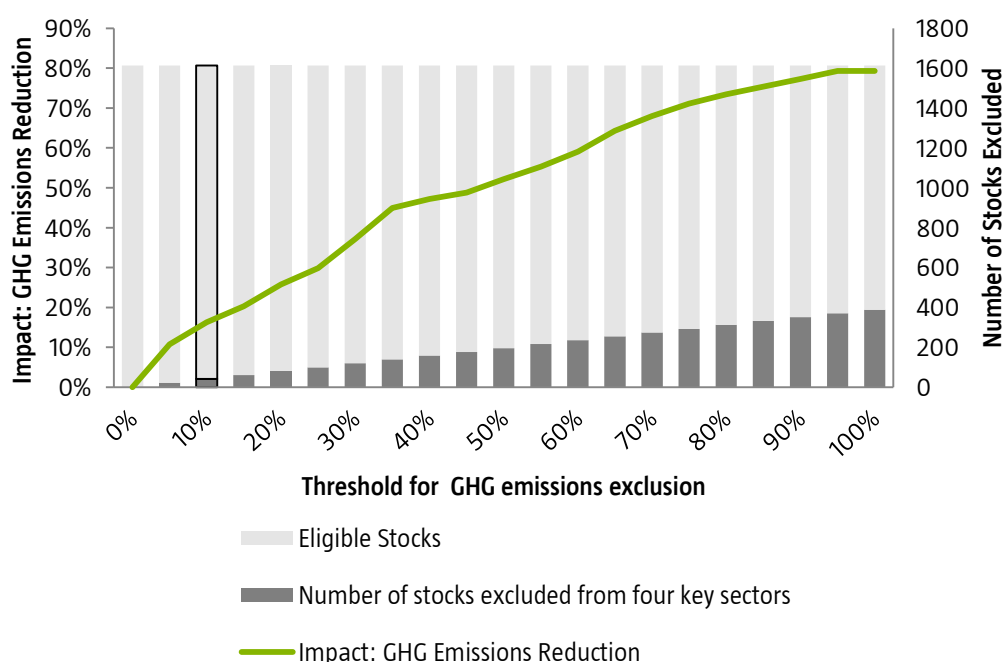


Source: RobecoSAM

When it comes to the management of decarbonization, this means that a substantial reduction in the carbon impact of a portfolio based on the MSCI World Index can be achieved by avoiding the highest contributors to CO<sub>2</sub> emissions in the four most exposed sectors, and replacing them with lower contributors.

Figure 5 illustrates how this works in practice for a sample universe containing 1,600 stocks based on the MSCI World Index. It shows the effect of raising the ‘best-in-class’ threshold for the four sectors most exposed to fossil fuels – Utilities, Materials, Energy and Transport – on the entire portfolio’s GHG footprint. The horizontal axis shows the proportion of companies we have removed from each of these sectors, ranging from 0-100%, and which have been replaced with lower GHG emitting stocks. The line shows the magnitude of GHG emissions reduction for the entire portfolio that is achieved with each best-in-class threshold and is read on the left hand axis. The columns illustrate the total number of stocks from four key sectors that have been removed from the portfolio, as well as those that remain in the universe.

Figure 5: Effect of best-in-class decarbonization approach on an MSCI World Index portfolio.



Source: RobecoSAM

Removing the 10% most GHG intensive companies from a narrow set of four industrial sectors most exposed to fossil fuels is sufficient to achieve a 20% reduction in the specific GHG emissions of a portfolio based on the MSCI World Index. Substantial decarbonization is therefore attainable with a modest adjustment in portfolio construction, without a critical change in the overall sector exposure of the portfolio, and therefore without a significant impact on its risk/return profile. Decarbonization can therefore be achieved in a way that addresses the key GHG emitters and without the portfolio imbalances that are introduced by a policy of outright fossil fuel divestment.

We have also found it helpful to measure each company’s approach to climate change management in order to understand the more qualitative aspects that contribute to a portfolio’s carbon footprint. We want to be forward-looking and to recognize companies that have concrete and credible plans for reducing GHG emissions. For this we are again able to draw on the CSA to understand how companies rank in terms of their climate carbon management.

## Conclusion

RobecoSAM recognizes that climate change is currently the largest and most complex of sustainability issues, and is linked to many other sustainability challenges facing the world today. The guiding principle for all of our activities is to proactively manage sustainability investing issues and this is the starting point for how we also approach climate change. In addressing this issue we are:

- Using our proprietary CSA data and our newly launched Environmental Impact Monitoring Tool to substantially reduce the carbon footprint of our core equity investment strategies while controlling sector exposures and risk/return characteristics. This process of decarbonization is based on the systematic measurement, management, and monitoring of the CO<sub>2</sub> emissions associated with these portfolios.
- Launching an engagement with electric utilities to encourage the implementation of proactive and ambitious environmental strategies, operational excellence in thermal generation, business model innovation, and public policy. We continue to engage with the real estate sector on their management of carbon issues.
- Providing fossil fuel exclusion services as part of our tailored client solutions.

When it comes to GHG emissions, we believe the only certainty is change. RobecoSAM is equipped to monitor developments in both the energy sector and the investment space and will be working to create further approaches for the benefit of our clients and our products.



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## About RobecoSAM

Founded in 1995, RobecoSAM is an investment specialist focused exclusively on Sustainability Investing. It offers asset management, indices, engagement, voting, impact analysis, sustainability assessments, and benchmarking services. Asset management capabilities cater to institutional asset owners and financial intermediaries and cover a range of ESG-integrated investments (in public and private equity), featuring a strong track record in resource efficiency theme strategies. Together with S&P Dow Jones Indices, RobecoSAM publishes the globally recognized Dow Jones Sustainability Indices (DJSI). Based on its Corporate Sustainability Assessment, an annual ESG analysis of 2,900 listed companies, RobecoSAM has compiled one of the world's most comprehensive databases of financially material sustainability information.

RobecoSAM is a member of the global pure-play asset manager Robeco, which was established in 1929 and is the center of expertise for asset management within the ORIX Corporation. As a reflection of its own commitment to advocating sustainable investment practices, RobecoSAM is a signatory of the UNPRI and a member of Eurosif, ASrIA and Ceres. Approximately 130 professionals work for RobecoSAM, which is headquartered in Zurich. As of June 30, 2014, RobecoSAM had assets under management, advice and/or license in listed and private equity\* of approximately USD 10.7 billion. Additionally, RobecoSAM's Governance & Active Ownership team\*\* had USD 85.1 billion of assets under engagement and USD 53 billion of assets under voting.

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