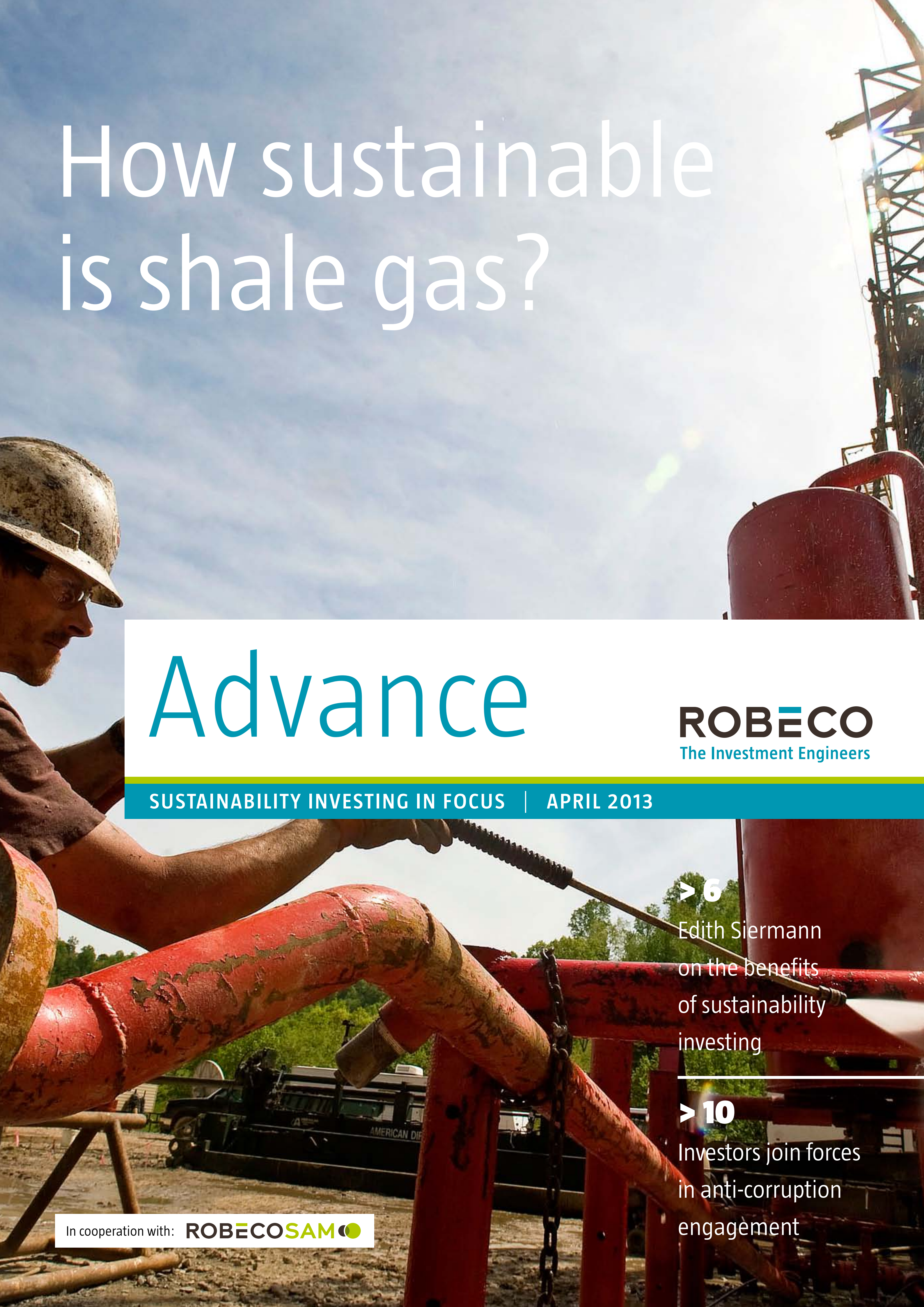

# How sustainable is shale gas?

# Advance

ROBECO
The Investment Engineers

SUSTAINABILITY INVESTING IN FOCUS | APRIL 2013



In cooperation with: ROBECOSAM

# What's your water footprint?

On World Water Day, last March 22, Professor Arjen Hoekstra presented his book 'The water footprint of modern consumer society'. Hoekstra's standard for measuring water consumption per end product, the water footprint, has been adopted throughout the world. The water footprint of a single cotton shirt, for example, is 2,700 liters of water.

In his book, Professor Hoekstra makes far-reaching proposals for consumer goods manufacturers to cut global water consumption. He advocates a 'zero water footprint', which would be feasible if industry were to fully recycle its water and recover heat and chemicals from wastewater. Hoekstra also suggests introducing benchmarks for products to provide companies with a guideline for reducing their products' water footprint.

Arjen Hoekstra founded the Water Footprint Network to raise awareness of the use of water. So far, 188 companies and organizations have joined.

> **Click here** to read more about Robeco's engagement with apparel companies and how they manage water in their supply chain.

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## ORIX acquires Robeco

ORIX Corporation (ORIX), Rabobank and Robeco have announced that ORIX is acquiring approximately 90.0% of the equity in Robeco from Rabobank, for EUR 1,935 million.

ORIX is committed to support Robeco's 2010-2014 strategy, its services to clients and its investment processes and teams, based on Robeco's long term commitment to deliver value to clients. Robeco's management board will remain in their current roles with Roderick Munsters continuing as CEO and reporting to ORIX headquarters in Tokyo.

# Lessons from five years of country sustainability analysis

**It is five years since we began integrating country sustainability analysis into our fixed income investment process. What have we learned over that half decade? Crucially, country sustainability analysis contributes significantly to decision making—and to performance. That's because it acts as an early-warning system. In the eurozone crisis, our analysis helped us identify problems in countries well before they were either reflected in yield spreads or recognized by the ratings agencies.**

**Take Greece. The poor quality of statistical data was an early warning sign of the country's serious problems. Our country sustainability analysis also revealed differences between France and Germany—the difficulty of implementing reform in France, for instance—that were not priced in. These indicators allowed us to sell Greek and French bonds early.**

**Such warning signs are not red lights that prohibit investment. Rather, if adequately compensated for the risk, investing in these countries' bonds might still be an attractive proposition. In short, country sustainability analysis is about making sure we have looked at as much of the relevant information as possible. We feel that our independent analysis gives us a great advantage over other investors.**

**So what is our country sustainability analysis telling us now? In our latest bi-annual reappraisal, Spain's risk profile was improved. But here's the thing: it doesn't matter that much at present. The key factor in European bond markets in the last year has been the ECB's announcement of its OMT (outright monetary transactions) weapon. That is currently a much more powerful driver. The weighting we give to country sustainability analysis thus varies from time to time. But we have come to understand its added value and give it a proper place in our investment process.**

RIKKERT SCHOLTEN IS A SENIOR PORTFOLIO MANAGER AT ROBECO

## Human rights committee at Apple?

Despite Apple's big steps forward in managing sustainability in its supply chain, Robeco recently backed a shareholder proposal to install a human rights committee at the company's board level. The proposal did not make it. This did not come as a surprise as large proxy advisors, whose advice tends to be followed by many institutional investors, had advised against it.

Senior Engagement Specialist Daniëlle Essink is about to start an engagement with Apple about sustainability in its supply chain. 'A human rights committee is not necessarily our chief aim', Essink explains. 'We think a – broader – Sustainability Committee at Apple's board level could be more valuable.' Peer companies like Intel and Microsoft already have such a committee.

> **Click here** to read more.

## A sustainability index for emerging markets

RobecoSAM and S&P Dow Jones Indices have launched the Dow Jones Sustainability Emerging Markets Index (DJSI Emerging Markets). This is the first index consisting of sustainability leaders from emerging markets. In line with the range of existing Dow Jones Sustainability Indices, the DJSI Emerging Markets is constructed on the basis of RobecoSAM's annual Corporate Sustainability Assessment (CSA), which evaluates companies' sustainability performance based on economic, environmental and social criteria. The increase in the number of emerging market companies participating in RobecoSAM's CSA shows that they are increasingly embracing sustainability as an important factor in their competitive position. Currently, the DJSI Emerging Markets tracks the performance of 69 leading companies from 20 developing economies.

> **Click here** to read more.

## Wastewater treatment: a booming market

Every day 6,000 children worldwide die from diseases associated with inadequate sanitation, poor hygiene, and unsafe water. About 2.6 billion people lack access to basic sanitation.

There is an urgent need to expand sewerage systems that carry wastewater to treatment plants in order to protect human health and the environment. As a result, wastewater treatment equipment offers a promising outlook, with a projected compound annual growth rate of 7.5 % between 2010 and 2015. The main beneficiaries are water utilities such as Sabesp in Brazil, China Everbright or the international operations of the French-based Suez Environnement.

> **Click here** to read more.

# 67.9%

# of the Swiss

voted in favor of the Minder Initiative, which increases shareholders' rights. It proposes a yearly say-on-pay and a ban on golden handshakes and golden parachutes.

# Robeco digs deeper into mining sector risks

**Risk oversight is an important part of a company's corporate governance. It is vital to the mining sector, where the risks are significant. Senior Engagement Specialist Carola van Lamoen will start an active dialogue with mining companies to help them keep their risks in check.**

## Corporate risk oversight: an important issue...

Robeco attaches great importance to corporate risk oversight, and is involved in both the development of policy in this area and engagement with companies. Senior Engagement Specialist Carola van Lamoen is currently co-chairing the ICGN Corporate Risk Oversight Committee together with Philip Soulanille. This committee develops guidance to improve corporate risk oversight worldwide and reacts to consultations in this area. The ICGN was founded in 1995 at the instigation of major institutional investors. It represents investors, companies, financial intermediaries, academics and other parties interested in the development of global corporate governance practices.

## ... especially in the mining sector

Corporate risk oversight is especially important in the mining sector. Mining activities can have a severe negative impact on employees, the environment and wider society. Incidents have a substantial impact given the high number of fatalities, and operations are predominantly located in relatively unstable emerging markets. As a result, mining companies are closely watched by a variety of stakeholders. The main ESG risks incurred by mining companies relate to bribery, biodiversity, climate change, community impact, health and safety, human rights, waste and water.

## Engagement

Opening, exploiting and closing a mine all come with their own specific risks. Add to this the huge variety in types of mines and it is clear that the issue is very broad. Van Lamoen therefore commissioned EIRIS, a leading global provider of research into companies' ESG profile, to carry out an assessment of risk oversight in ten prominent mining sector companies. 'Although the results vary greatly, EIRIS found that the areas where mining companies generally show the greatest room for improvement are the monitoring of risk management performance after risk policy breaches and the linkage of ESG risks to remuneration, says Van Lamoen.

'Based on EIRIS' findings and our own assessments, we will start an engagement with several companies which we think offer room for improvement', Van Lamoen reveals. Some of the areas on which she will focus are the independence of the board members, regular board review of risks, and the presence of a whistleblowing system for potential breaches of the company's risk management system.

# ‘You ignore crucial information if you don’t look at sustainability.’

**EDITH SIERMANN ON THE BENEFITS OF SUSTAINABILITY INVESTING**

You wouldn't read without your glasses, so why would you invest without taking sustainability criteria into account? ESG criteria improve investment decisions. That's the opinion of Edith Siermann, CIO Fixed Income and, recently, responsible for Governance and Active Ownership.

### Why are you an advocate of sustainability investing?

Sustainability investing adds concrete value to fixed income and equity investments. Our investment teams take environmental, social and governance (ESG) aspects into account when making investment decisions. This additional information allows us to make better informed investment decisions.

### You are already looking at a wealth of financial data. What is the added value of yet another indicator?

Financial parameters like turnover growth and earnings per share only give a partial representation of a company's competitive edge. We also look at how companies anticipate mega trends like climate change and the aging of the population, for example. Which opportunities and threats are associated with these trends and how do companies deal with them? Car manufacturers, for example, currently invest a lot of time and money in the development of fuel-efficient models. Companies that are able to take advantage of the challenges in their sector have a competitive edge. As an investor, keeping an eye on sustainability therefore pays off.

> 'Keeping an eye on sustainability pays off.'

You can also reverse it. Companies that do not take sustainability into account risk missing the boat. You have to consider changes in the public opinion about what companies can and cannot do. These changes can translate into legislation that can have a big impact on companies' performance. An example is the ban imposed on Australian tobacco companies to mention their brand name on cigarette packets. You are ignoring a lot of information if you don't take ESG factors into account.

### How do you use this sustainability information in your investment decisions?

In our investment approach we take the scores of RobecoSAM as our point of departure. Every year RobecoSAM assesses over 2500 global listed companies on a broad set of general and industry-specific economic, environmental and social criteria. The results of the Corporate Sustainability Assessment (CSA) are fully integrated into our investment processes. In our fixed income processes we also use the Country Sustainability Rankings that were jointly developed by RobecoSAM and Robeco's fixed income team.

### How does ESG integration work in practice? Can you give an example?

When we invest in credits, for example, we focus on an optimal risk-return trade-off. In other words, we assess whether we receive a sufficiently large return for the risk we take when investing in a corporate bond. ESG factors help us in that analysis. If a company scores poorly on various ESG factors, it should pay a higher risk premium. By analyzing ESG factors we are better equipped to establish which compensation is appropriate for an investment.

Recently, we analyzed a US gas and oil company involved in shale gas. Gas and oil extraction impact the environment and shale gas is controversial. You would therefore expect a company in this industry to have a sharp focus on the environment, but our ESG analysis shows that this company has a weak environmental policy. According to our analysis, the risk of environmental damage is too large and the credit's compensation is not in proportion to this risk. We therefore concluded that this is not an interesting investment.

> 'I firmly believe in a philosophy aimed at enhancing corporate sustainability.'

### You are head of an investment department and also responsible for Governance and Active Ownership. How can you combine those two interests?

It makes sense to bring the investment business closer to our engagement activities. It's in fact a logical combination. The Governance and Active Ownership team brings our efforts as investors to the next level. We talk to companies and discuss what our expectations and criteria as sustainable investors are. In a constructive dialogue we try to help the company become more sustainable, which benefits the company, us as investors, and many other stakeholders, such as local communities. I firmly believe in the team's philosophy, which is aimed at enhancing corporate sustainability and shareholder value by aligning the interests of investors and companies.

# How sustainable is shale gas?

**Despite environmental concerns, cheap shale gas has many advantages which make it hard to dismiss. To remove some of the objections an active dialogue with shale gas companies is useful.**

## There's lots of it

Shale oil and gas have become an increasingly important source of natural gas & oil since the start of this century, especially in the US. 'The main advantage of shale gas is that the reserves are huge', says Thomas Guennegues, senior analyst at RobecoSAM. 'Especially in countries where few or no other fossil fuel resources are present, shale gas reduces their dependence on foreign supply.' Finally, shale gas could replace more environmentally damaging fuels. 'Even if you take the most negative estimates of the strongest opponents of shale gas, the emission footprint of shale gas remains well below that of coal', Guennegues states.

> 'The emission footprint of shale gas remains well below that of coal.'

'For coal, emissions range between 900 and 1200 kg/MWh, against 570 - 640 kg/MWh for shale gas. In addition, in the case of shale gas there are no emissions of particulates or sulfurs and emissions of nitrous oxide are much lower.'

## Environmental concerns are raised

'Despite these advantages, the exploitation of shale resources does pose some environmental challenges', says Guennegues. The drilling of shale gas involves a risk of groundwater contamination, the water usage is quite intense, chemical products used in fracking contain hazardous materials, and drilling activity can cause local surface disturbance. The fact that some shale plays are located in areas that were never exposed to oil & gas exploration before, has increased public attention for the environmental impact.

## Risks for groundwater

Guennegues does refute at least part of these environmental concerns. 'As for the pollution of groundwater, the aquifers are usually located at depths ranging from 50 to 500 feet, whereas most shale formations are at over 5,000 feet deep. The risk of migration of gas from man-made fractures in the rock to the aquifer is therefore very limited', Guennegues states.

## Water usage is lower

The water used to produce an equivalent amount of energy from shale gas is about 7 times smaller than for coal. However the water usage for a typical well – some 15,000 to 20,000 m3 – can put stress on the local water resources given the concentrated timeframe of the drilling process. 'Nevertheless, the use of water is strictly regulated at local level and negotiations with municipalities and detailed supply contracts are often necessary to get the required drilling permits', Guennegues knows.

## Is water contaminated?

The water used for fracking – the hydraulic fracturing of the shale formation - contains chemicals that might be hazardous. However, exploration and production companies have already started increasing disclosure and improving their water management strategy, by increasing the proportion of water recycled and improving engagement with local stakeholders. 'An example of increased transparency is FracFocus, a US hydraulic fracturing chemical registry, whose website provides the public access to reported chemicals used for hydraulic fracturing within their area. More than 200 energy-producing companies have registered over 15,000 well sites through FracFocus', says Guennegues.

## Drilling disturbs local communities

Finally, drilling activities affect the local

community. Hundreds of trucks create traffic, dust, and noise. The well itself is also taking up space that might otherwise have been devoted to farming or forest. 'Companies have been trying to mitigate these issues by providing traffic management, repairs and restoration of the area surrounding the well. Noise can be reduced by rubber flooring or sound walls. The companies also try to hire local staff', Guennegues concludes.

## Develop cleaner technologies

In Guennegues' opinion, these concerns should not be a reason to dismiss shale gas altogether. Instead, they should push governments to increase R&D activities to develop even cleaner and less disturbing technologies. Regulators should require more transparency and impose stricter standards. 'Water management should be coordinated locally, involving municipalities and local water treatment and recycling centers', Guennegues states.

## Help shale gas companies operate more sustainably

Senior engagement specialist Sylvia van Waveren talks to companies about precisely these issues. She is actively engaging with 22 companies in the unconventional energy sector, such as Exxon, Royal Dutch Shell and BHP Billiton. In the first quarter of this year she focused on one crucial topic: water policies. Van Waveren expects the companies to have a policy aimed at improving water efficiency. For example, does the company develop products or technologies for water treatment or purification? Van Waveren took a close look at the limitation, recycling and monitoring of water use.

**'The main advantage is that the reserves are huge.'**

## Some companies lead the way

'Our comparison shows that the majority of the companies already have a water policy, providing some disclosure on water usage, water spills and water recycling. Here we will engage on improving water management efficiency', Van Waveren explains. 'As for a couple of companies in the beginner stage we will have to make them aware of the importance of a good water policy. In these companies we will find the most work.' Companies with an average score, mostly big oil and gas companies, will have to further improve their policy and disclosure. Finally, there is a select group of best practice companies, i.e. Hess Corporation, Suncor Energy and Canadian Oil Sands. They have very good disclosure and a well-defined water policy. 'There is no need for us to engage with these companies. We will use them as a role model for other companies', Van Waveren concludes.

# Winners & losers

Which countries will benefit from the shale gas boom and which ones will lose out?

**The winners: US, Mexico, Japan and South Korea**
Over the next decade, shale gas will be a largely US phenomenon. The country's industry and utilities will benefit from lower gas prices. The US will be able to achieve energy independence. As a member of the North American Free Trade Agreement, Mexico will import cheaper natural gas. Lower energy prices, combined with low wages and low shipping times, will help Mexico to become an important competitor to China in manufacturing. Japan and South Korea are the world's largest consumers of LNG. Due to shale gas North American LNG imports are close to zero. This means that Japan and South Korea no longer need to compete with the US or Mexico over the purchase of LNG and may even renegotiate the terms of their supply contracts.

**The losers: Russia and the Middle East**
Russia is slowly losing its grip on the European gas market. In the past, it had the power to cut off countries that were hostile or did not pay enough, but that may change. Beyond Europe, Russia wanted to export LNG and build large pipelines to China. These plans no longer look feasible. The position of the Middle East, the region with the world's largest oil & gas reserves, is likely to be eroded, especially when shale gas extraction techniques will be implemented in shale oil.

**> Click here** for the winners and the losers.

ENGAGEMENT CASE STUDY

# Investors join forces in anti-corruption engagement

**2010**
Transparency International and UN PRI start anti-corruption engagement

**20** US and European investors participate in the collaborative engagement

**21** companies are approached to improve their anti-corruption policies and systems

Sustainable investors have various tools to engage with companies. One of them is a collaborative engagement, in which investors join forces to achieve a goal. Recently Senior Engagement Specialist Carola van Lamoen participated in a collaborative anti-corruption engagement.

## Collaborative engagement

Over the past three years, Robeco was involved in a collaborative engagement initiated by members of the UN Principles for Responsible Investment. The aim was to improve companies' anti-corruption policies and systems.

## Selecting the companies

So which companies were approached? 'In 2010 Transparency International and UN PRI identified 21 companies which, on the basis of publicly available information, appeared to have poor anti-corruption systems while facing high corruption risk', Van Lamoen explains. 'These risks were high due greater regulatory enforcement, known risks of bribery within that sector and the presence in markets with high corruption risk.'

## Investors need information for their analysis

A group of around 20 investors, including Robeco, wrote letters to these companies highlighting the risks they faced and apparent weaknesses in their procedures. We wanted to make clear that their investors required information on their anti-corruption systems in order to be able to assess the investment risks', Van Lamoen adds.

Van Lamoen engaged with Brazilian steel producer Usiminas, encouraging them to further enhance transparency about their anti-corruption policy and systems.

## Significant improvements

Meanwhile the collaborative engagement has been closed and Transparency International, an NGO which monitors corruption, has investigated the degree of improvement in the companies concerned. 'The outcome is promising', Van Lamoen states. 'Results suggest that companies are steadily improving on publicly reporting their anti-corruption efforts.' A number of them have a higher score on their anti-corruption management systems.

Most of the assessed companies have improved their performance. Usiminas, the mining company for which Robeco took a leading role in this initiative, even doubled its score. This is mainly due to an improved code of conduct; the company has an advanced whistle-blowing policy, is part of the UN Global Compact and a sector-specific initiative to counter bribery and corruption.

# ESG integration in practice: the Syngenta investment case

**ESG factors provide useful information for the analysis of stocks. But how does this really work in practice? Willem Schramade, Global Equity analyst, discusses a concrete example, explaining how ESG factors impact his opinion of Swiss agribusiness company Syngenta.**

## Syngenta

Syngenta produces products designed to improve crop yields and food quality. The company's main segment – crop protection – offers herbicides, fungicides, insecticides, etc. 'Syngenta aims to benefit from one of today's mega trends: the need for increasing agricultural productivity', Willem Schramade, Global Equity analyst, states.

## The assessment of ESG factors

So where do the ESG factors come in? 'Syngenta operates in the agrichemicals and seeds industries, which have their own specific ESG issues, such as innovation management and climate strategy' Schramade explains. In assessing these factors, Schramade looks at the RobecoSAM scores, discusses them with the relevant analyst at RobecoSAM, and obtains input from engagement specialists about current issues discussed with the company. Finally he draws his own conclusions about the impact of these factors on the company's value drivers.

## A good RobecoSAM score

'Syngenta's RobecoSAM score is very good', Schramade knows. The company is competitively ahead on innovation management, which allows them to drive sales growth and protect margins. Furthermore, it is an industry leader in its climate strategy. 'Syngenta uses carbon intensity as a management KPI and it considers greenhouse gas emissions across the value chain. This strategy should boost margins as carbon rights prices rise in the future', Schramade states.

On the other hand, Schramade does note room for improvement in the company's product stewardship, which is the extent to which a company takes responsibility to reduce the environmental, health, and safety impact of its products. This has a negative impact on his analysis.

## ESG issues well integrated in the strategy

'The overall picture is that ESG issues are well integrated into Syngenta's strategy, which aims to grow more crops from fewer resources.' This is very relevant for global resources since farming uses about 40% of the world's land and 70% of its fresh water withdrawal', Schramade concludes.

## The effect on the bottom line

Having analyzed the company's ESG performance, Schramade assesses the impact of the various factors on Syngenta's bottom line. He expects the company's innovation management, for example, to have a positive effect on sales. Costs should be mitigated by the company's climate strategy and, again, innovation management. Its product stewardship will have a negative effect, though.

ESG information is one input factor in Schramade's analysis. To come to a final conclusion, Schramade combines the company's ESG performance with his assessment of traditional financial parameters, such as company positioning, management quality and financial valuation measures.

# 'A culture of integrity and responsibility is crucial to long-term success'

SYLVAIN MASIERO
THALES' DIRECTOR OF CORPORATE RESPONSIBILITY DEVELOPMENT

**In October 2012, Transparency International, an NGO which monitors corruption, published a study ranking defense companies around the globe on their efforts to combat corruption. Thales, a French multinational active in aerospace, defense and information technology, ranked among the highest. Senior Engagement Specialists Sylvia van Waveren en Carola van Lamoen recently concluded an engagement with this company.**

## Do investors often approach you for a dialogue on ESG issues?

Yes, they do. We have a comprehensive extra-financial disclosure policy and hold dedicated conferences and roadshows with our stakeholders, including sustainable investors such as Robeco. In 2012 we held 25 meetings with various companies, such as Nomura, Cheuvreux and Merrill Lynch. We also regularly reply to questionnaires from funds, rating agencies or, for example, the Carbon Disclosure Project or the Dow Jones Sustainability Index.

## How did you experience the contact between Robeco and Thales?

What struck me in our dealings with Robeco, was the high quality of our conversations. The dialogue was open and based on mutual listening.

## Was the dialogue with Robeco helpful for Thales?

The conversations with Robeco have certainly been helpful; this type of dialogue helps us to better understand the interests and constraints from our investors, as well as their investment criteria. Our corporate responsibility strategy is based on our conviction that a culture of integrity and responsibility is crucial to long-term success. In this respect, the objectives of Thales and its stakeholders are aligned.

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