

BUSINESS & THE ENVIRONMENT

FINANCIAL TIMES SPECIAL REPORT | Tuesday March 22 2011

www.ft.com/business-environment-2011 | twitter.com/ftreports

Better awareness promises action and solutions

Some companies are thinking beyond carbon emissions to conservation and biodiversity but there is a long way to go, writes Sarah Murray

Whether climate change-related or not, recent severe weather events have focused business leaders' attention on their companies' ecological footprint and vulnerability to environmental disasters.

Meanwhile, looming water and food crises have prompted some companies to expand their focus from greenhouse gases to broader environmental issues. The question is to what extent awareness is being translated into action – not only on the part of leading companies but throughout the entire business community.

Certainly, many large global enterprises are bringing sustainability considerations into their business decisions.

Some strategies go beyond companies' direct operations, as in the case of Walmart, the US supermarket group, which now requires suppliers to report on the environmental impact of their products.

There is even evidence that some are taking a longer-term approach to the environmental

sustainability of their operations.

In December, Paul Polman, Unilever's chief executive, announced that his company would, among other things, be purchasing all its soybeans, fruit and palm oil from sustainable sources by 2015. Most notably, he said the company was not interested in attracting investors who demanded increased results on a quarterly basis.

At the same time, some companies are starting to look beyond carbon emissions to the conservation of natural resources such as water and biodiversity.

The climate talks in Cancún produced only a modest agreement on global climate change governance

"The risk if you focus only on carbon is that you reduce your greenhouse gas emissions but, for example, create water stress," says Fokko Wientjes, sustainability director of DSM, the Dutch life sciences and materials sciences group, which is working with International Union for Conservation of Nature to explore the company's biodiversity impact.

"If you're investing in biotechnology, you'd better make sure

that these resources will be there by the time the developments go mainstream," says Mr Wientjes. "Otherwise you're investing in the wrong area."

Peter Lacy, head of sustainability for Europe, Africa and Latin America at Accenture, the consultancy, believes two new pressures could hasten the rate at which companies' integrate broader environmental considerations into their businesses.

"When you have pending water and food crises in different parts of the world, once the awareness phase kicks in, the shift to the solutions phase could in some regions move much more quickly," he says.

In Europe, legislation is helping drive corporate action on the environment. Rules now govern everything from waste – electronics manufacturers, for example, are now responsible for collecting and recycling their products – to carbon trading, while state subsidies in many countries encourage investment in renewable energy and energy efficiency.

Elsewhere, however, regulatory progress on environmental issues is sluggish, if not non-existent.

The latest round of climate talks in Cancún last year produced only a modest agreement on global climate change governance. Meanwhile, in the US, not only has Congress failed to pass cap-and-trade legislation

Continued on Page 2



Going green: Unilever says it will be sourcing all its palm oil sustainably by 2015

AFP

Inside this issue

Hidden savings Why send equipment to landfill when new plant often brings minimal benefits? **Page 2**



L'Oréal case study Green facelift at cosmetics group **Page 2**

Tesco case study The supermarket group is taking the initiative **Page 2**

Banking Lenders have potential to help protect the planet. Finance is a big issue in the drive for sustainability **Page 3**

Engaging employees Keeping bees is one way to do it, and it makes financial sense **Page 3**



KKR profile The buy-out specialist puts green into its portfolio **Page 3**

Water trading Exchange system mooted as an alternative way to allocate liquid assets **Page 4**

Water and investors Shareholders seek transparency on security and sustainability **Page 4**

Biodiversity Putting a value on nature, such as forests, can cut costs **Page 4**



VW de México How the carmaker has kept water running **Page 4**

SAATCHI & SAATCHI



OUR ENERGY WILL ALWAYS BE POWERED BY YOUR DREAMS.

ENERGY TO ENJOY THE SUN EVEN AT NIGHT. 'Make it real'. The words that have always driven us. Making ideas that spring from your aspirations actually happen. So starting with the dream of clean, inexhaustible energy, we've built Archimede in Sicily, a thermodynamic solar power plant that still produces energy when the sun isn't shining and even at night. Through innovation, we've made a more sustainable good life possible. Because we've always believed in our own unstoppable energy. And the unstoppable energy of your dreams.



enel.com

Business & the Environment

Supermarket group stores up savings by going green

Case Study Tesco

The UK company is taking the initiative on sustainable issues, writes **Andrea Felsted**

Companies that consider themselves "green" often state publicly that they want to see tighter environmental rules in place, to create a "level playing field" and "greater certainty" in the business landscape.

However, Lucy Neville-Rolfe, corporate and legal affairs director of Tesco, says the world's third biggest grocer after Walmart and Carrefour, favours as little regulatory intervention as possible. "I always prefer a non-regulatory solution," she says.

This is why Tesco, which has operations in 14 countries, has forged ahead with its own programme to cut emissions. The measures the supermarket chain has put in place include the goal of being a zero-carbon business by 2050. Its efforts to cut emissions include a new generation of green stores, built to a new low-carbon blueprint.

In 2009, it opened its first zero-carbon store at Ramsey in Cambridgeshire, southern England. The store has the latest environmentally-friendly design features, and a combined heat and power plant, generating its own renewable energy.

Tesco also has a zero-carbon store in the Czech Republic, and is opening another in Thailand later this year. In other parts of its estate, including in its distribution centre in California, it uses a large number of solar panels.

Tesco does not seek to patent the green technology it uses, which allows others to follow in its footsteps.

Other moves include working with third parties, such as suppliers, to cut the environmental impact of the supply chain, and encouraging its customers to be greener.

It estimates that, in the UK, consumers account for about 70 per cent of greenhouse gas emissions.

To help consumers choose sustainably, it has introduced carbon labelling on more than 1,000 products, not just in the UK but also in South Korea. The efforts are not just



Tesco director Lucy Neville-Rolfe

helping Tesco and its customers to be greener, they are paying off in economic terms, too.

In the UK, Tesco is saving about £100m from the climate change programmes that it has put in place.

"It has been good for the business, and good for the planet too," says Ms Neville-Rolfe.

Where regulations are introduced, the framework should be a clear, simple and consistent, the store group maintains.

Ms Neville-Rolfe cites the example of the Copenhagen climate talks in December 2009, when governments struggled to set proper targets.

As a result, businesses moved ahead in deciding on goals in the hope that governments would also be setting targets worldwide.

"There remains a need for a framework... by international agreement," says Ms Neville-Rolfe. The next chance to do this is at the coming round of climate change talks at Durban, South Africa in December.

Ambitious targets from the European Union would also be useful in creating a level playing field, Tesco says.

Further afield, Tesco

In the UK, the supermarket chain is saving about £100m from its climate change programmes

supports the national governments of the countries it operates in to help them meet carbon reduction targets.

The fortunes of its stores are tied to the success of economies – and if these are affected by climate change, this is bad news for its business.

But there are several areas where regulatory intervention would be useful in helping Tesco cut emissions.

One would be a planning system that favoured green investments.

"If you have a green investment, it is more complicated, and often it takes longer to go through the planning [system]."

"In places where they are very interested in reducing carbon, they are beginning to think about such things," she says.

Changes to the planning system could see it take account of the value of features such as combined heat and power plants, and wind turbines.

Tesco would also like to see the municipal tax system favour greener buildings, both in the commercial and domestic property sector.

Other areas where a more level playing field could be useful include removing restrictions on some low-carbon vehicle technology, which remain in place in parts of Europe and Asia, and a better flow of traffic across borders.

"All these small things together – every little helps if you like. [They] can help individual countries, and individual businesses to reduce carbon," says Ms Neville-Rolfe.



Kick the habit: organisations are being urged to break with the 'throwaway' culture that leads to toxic materials going to landfill

Bloomberg

Hidden sources of green value

Savings strategies

Experts can help groups to come clean, writes **Rod Newing**

Using resources more efficiently to reduce carbon footprint also reduces costs. However, many organisations are finding additional hidden sources of value, either through unexpected ways to reduce their consumption or by generating new revenue.

Many organisations lack the specialist expertise to identify all possible savings in the first instance. A recent report by the Carbon Trust, a not-for-profit company, analysed more than 1,000 projects to reduce energy costs.

The perception of chief financial officers was that the average internal rate of return would be about 20 per cent, but it was actually 48 per cent.

"There is a perception that energy is not a material business cost and offers low investment returns," comments Hugh Jones, managing director of Carbon Trust Advisory, its consultancy.

"Projects need assessment by experts who can really understand the benefits, but we have seen a fall in the number of sustainability-focused people employed. Organisations haven't prioritised them enough to get a comprehensive assessment of the true opportunity."

Another issue is the pressure from manufacturers to upgrade to more energy-efficient equipment, causing huge emissions during the installation process. Organisations are being urged to consider the whole lifetime of any new purchases.

"Sometimes, new doesn't equal better," says Mark McGinn, managing director at Verismic, a systems management company. "It just makes return on investment further away."

Steve Barker, head of energy efficiency and environmental care at Siemens Industry, an automation technology supplier, says the initial purchase price of many products is a tiny proportion of the overall lifetime costs.

For instance, a 75kW electric motor could be purchased for less than £5,000, but cost more than £1m to run in energy consumption and maintenance during its useful lifetime.

Askar Sheibani, chief executive of Comtek, a communica-

Case study L'Oréal

In 2009, L'Oréal, the cosmetics group, committed itself to halving greenhouse gas emissions, water use and waste per unit of finished product from 2005 levels by 2015.

"We are in the beauty business and want to be good citizens of the world," says Miguel Castellanos, managing director for the environment. "We know it is a hard goal, but we are going to get there. We are thinking of further goals after 2015."

The company is using solar panels at suitable factories. Yichang, China has 2,000 solar tubes for pre-heating water; Pune, India preheats washing water; and in Mexico City, one of the largest solar installations in South America charges the batteries of forklift trucks and produces heat for the factory. In the US, North Little Rock, Arkansas, is using hydropower.

The group is also investing in biomass facilities. In November 2009, the first went onstream at its Libramont factory in Belgium, which is in the countryside surrounded by farms.

Cow dung is collected and processed in an anaerobic digestion plant developed by Eneco, a Belgium energy company, and Bio-Energie Europa, a biogas producer.

"We always partner with people who have relevant expertise," says Mr Castellanos.

The plant produces methane gas, which feeds three electricity generators. The energy produced is recovered and used to heat water, some of which is sent to gas boilers to produce steam, to meet the processing needs of the factory.

The facility processes 54,000 tonnes of biomass a year, producing enough electricity for all the factory's needs, and

sufficient warmth for 80 per cent of its heating needs.

The facility was designed with capacity in excess of current requirements to allow for future production increases. This means that in 2010 it generated 40 per cent more electricity than it needed, so was able to inject enough into the grid to supply 4,500 homes. The facility has saved 8,700 tonnes of emissions a year, of which 5,900 tonnes relate to the factory and 2,800 tonnes relate to the houses served by the grid.

Mr Castellanos is keen to point out that the business case was built entirely on supplying the factory and did not take account of feeding the grid. "We didn't want a payback that would rely on production of electricity to be sold," he says. "If we increase production, we will use the electricity we are producing ourselves. Our vision was to cut carbon dioxide [emissions], not generate revenue."

A second biomass facility is being built at L'Oréal's Spanish factory in Burgos. Using wood from local forests, it will be operational in 2012.

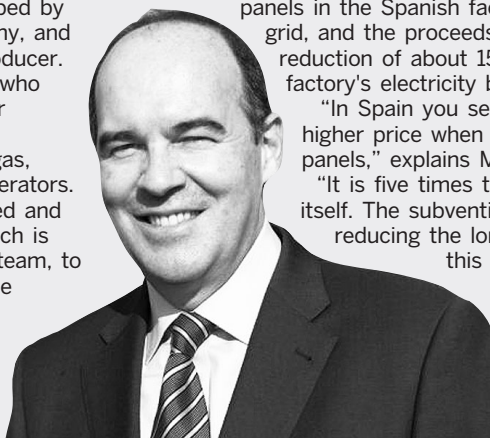
Last year's electricity production from solar panels in the Spanish factory was all sold to the grid, and the proceeds represent a net reduction of about 15 per cent a year in the factory's electricity bill.

"In Spain you sell electricity at a much higher price when it comes from solar panels," explains Mr Castellanos.

"It is five times the cost of the electricity itself. The subvention was of interest in reducing the long pay-back periods of this sort of investment."

Rod Newing

Castellanos: We want to be 'good citizens of the world'



tions equipment repairer, says many manufacturers tout the environmental benefits of their most recent products and withdraw support for older products. However, repair can extend the life of most electronic products by as much as four times.

"Replacing equipment that is still functioning often brings minimal improvements at considerable financial cost and unnecessary wastage," he says. "Organisations should break with the 'throwaway' culture that leads to toxic materials going to landfill."

Similarly Cognizant, an outsourcing company, embarked on a "Go Green" programme that uncovered opportunities to improve equipment efficiencies, which were usually 20 per cent more than design benchmarks, saving 30 per cent in lifetime operating costs.

"Overworked and undermaintained equipment dies young," says Premkumar Pandurangam, the programme's director.

"If it is used smartly and main-

tained regularly with an eye on performance and efficiency, it will last longer with lower maintenance and operational costs."

Rod Ellsworth, vice-president for sustainability at Infor, an enterprise software vendor, says that up to 80 per cent of energy consumed is wasted.

Organisations tend to start with the objective to reduce the total utility bill, which does not recognise the consumption of individual equipment. So submitters are crucial on individual pieces of equipment to identify and rectify inefficient processes, parts or machinery.

"There is a perception that equipment will continue to operate as efficiently as it did on day one," he says. "Machinery which utilises compressed air represents one of the largest culprits of waste energy, as the pressure results in leaks as the equipment ages."

Tarquin Henderson, founder of ReEnergise Renewables, an energy efficiency consultancy, refers to a plastic container production plant where fixing com-

'Few businesses consider water efficiency. Customers are often surprised to see how much can be saved by analysing water use'

pressed air system leaks halved electricity use in that process, which accounted for 20 per cent of the plant's total consumption.

Similarly, fixing water leaks from deficient equipment in a textile dyeing plant reduced the plant's total water consumption by 40 per cent, as the dyeing process is extremely water hungry.

Business Stream, Scotland's largest non-domestic water supplier, advocates smart meters to identify leaks and claims to have delivered consumption savings of 8,035 tonnes of carbon dioxide since 2007.

"Few businesses consider water efficiency," says Mark Powles, the company's chief executive, "so customers are often surprised to see how much can be saved by analysing water use."

One way to save costs is to generate your own electricity. However, additional value can be created by selling it back to the grid, which often attracts premium prices (see box).

"The vast majority of businesses are unaware that these payments are designed to reward them for the energy they generate that goes back into the grid," says Kevin Parslow, chief executive of Evance Wind, a producer of small wind turbines.

"It helps governments to meet their renewable energy targets." He says that a small 5kW wind turbine with an annual wind speed of 7 metres per second will produce about 17,000 kWh of energy per year. With UK feed-in tariffs at 28p a kWh, an investment of £25,000 could earn £90,000 over 20 years.

Chris Smith, sales and marketing director at on365, a data centre specialist, suggests that emergency generators could either be used to feed the grid, or to power the data centre in times of peak grid demand, with the organisation being rewarded for disconnection.

InterfaceFlor, a carpet tile manufacturer, takes back carpet with a nylon face and a vinyl back from any manufacturer. It now harvests more nylon and vinyl than it can use, so it has an unforeseen revenue stream of \$2.3m from the post-consumer plastics market.

"Technological advances will let the company realise future revenue from other types of carpet," says Eric Nelson, vice-president of strategic alliances for Interface Americas.

"The rising cost of petroleum will increase the value of the materials that recyclers produce."

Better business awareness promises actions and solutions

Continued from Page 1

but, in addition, Republicans are seeking to remove environmental regulators' power to cut carbon emissions.

Dan Esty, newly appointed commissioner of Connecticut's consolidated Department of Energy and Environmental Protection, says that regulators should focus not only on trying to solve environmental problems but also on fostering business opportunities that could promote a clean energy economy.

"They need to shift the approach away from old command and control regulation," says Mr Esty, who is also author of *Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage*.

"They should develop market mechanisms to

engage the business community and get the private sector into the business of being solutions providers," he adds.

Prospects for regulators to lead the charge on corporate sustainability may be uncertain, but there is evidence that investors are pressing companies to adopt environmental responsibility.

In this year's round of proxy voting in the US, shareholders filed 96 environmental resolutions, 20 of which have since been withdrawn because the companies met investors' demands.

Even so, in a 2010 survey of 766 chief executives conducted by Accenture for the United Nations Global Compact, only 12 per cent of respondents said it was investor pressure that led them to incorporate sustainability into their business operations.

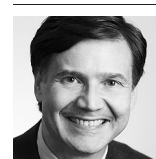
"The trend is good. Some of those groups are being more integrated into [sustainability] conversations than in the past," says Mr Lacy. "But the real picture is that analysts and investors who move markets are not asking the questions, whatever the SRI [socially responsible investing] community would like to think."

He argues that for investors to start playing a bigger role in driving corporate performance on environmental sustainability, companies must produce management information and performance data that demonstrate why they are in a better position than rivals in their industry.

"Sustainability in the round is difficult to quantify," says Mr Lacy. "But there are lots of ways in which we can understand and map out sustainability metrics relative to core

business drivers such as revenue growth, cost reduction, risk management and intangible assets."

Technology is a powerful tool in this respect. Tracking and measurement software enables companies to establish baselines and reduce everything from emissions of greenhouse gases to water consump-



Dan Esty: regulators must shift away from 'command and control'

tion. Many companies are using this technology to support greater transparency in their sustainability reporting, too.

This kind of transparency is critical in moving to a low-carbon and resource-efficient economy, says Juan Costa Climent, global

leader for climate change and sustainability services at Ernst & Young, the professional services firm. "If we don't know what the environmental impact or social consequences of our businesses are, it's very difficult to make any improvements," he says.

Mr Costa Climent believes that putting a real price on natural resources and pollution is a critical next step in shifting the global economy towards sustainable development.

Some companies are starting to see the benefits of doing so. Energy savings are emerging as a clear benefit of carbon reduction programmes, for example.

A recent report* by the Carbon Disclosure Project and A.T.Kearney, the management consultancy, found that 50 per cent of large businesses and 25 per cent of their suppliers had made cost savings as a result of

efforts to manage their carbon emissions.

Trading schemes are also helping put a price on natural resources and pollution. Carbon trading has been in operation in the European Union since 2005.

Meanwhile, fledgling water trading schemes in Australia and China are demonstrating that while universal water pricing remains politically unacceptable to many, market mechanisms for pricing water could help promote its conservation.

Even more innovative is the concept of payments for "ecosystem services", with the idea being that local communities in areas rich in natural resources could be given financial incentives to act as stewards of those resources.

"We have to change the price system that moves the world economy," says Mr Costa Climent. "[This is]

because we are not allocating an economic value to many of the environmental services that are provided by the global ecosystem."

Pricing these services could also help bring the analytical rigour to the measurement of corporate sustainability performance that would prompt more investors to take note.

Mr Costa Climent believes that, without transparency and pricing mechanisms, the move to a resource-efficient, low-carbon world economy cannot take place fast enough.

"Unless we understand and begin to explain which pieces of the global ecosystem we're taking advantage of in our day-to-day business activities, then it's going to be difficult to make any changes."

*The Carbon Disclosure Project 2011 Supply Chain Report

Contributors

Sarah Murray
FT Contributing Editor

Andrea Felsted
Retailing Correspondent

Joseph Milton, Rod Newing
FT Contributors

Andrew Baxter
Commissioning Editor

Steven Bird
Designer

Andy Mears
Picture Editor

For advertising details, contact: **Liam Sweeney**
Phone +44 020 7873 4148
Fax +44 020 7873 4006
Email: liam.sweeney@ft.com or your usual FT representative

All FT Reports are available on FT.com at: www.ft.com/reports

Follow us on twitter at www.twitter.com/ft.reports

Lenders have potential to help protect the planet

Banking

Finance is a big issue in the drive for sustainability, says **Sarah Murray**

As banks look to enhance their environmental credentials, many have embarked on energy efficiency programmes in their offices to cut their carbon emissions.

However, in addition to looking at their own ecological footprint, banks have a potentially far bigger impact on the environmental health of the planet in their role as lenders, deal-makers and providers of project finance.

For banks offering consumer services, loan products can be designed to encourage things such as energy efficiency and use of renewable energy. Through energy-efficient mortgages and home improvement loans, for example, banks can make it cheaper and easier for consumers to obtain loans if they invest in home insulation, window glazing, smart meters or domestic solar panelling.

"There's a real opportunity for financial services companies in linking together the pieces of the financial services ecosystem and government goals on carbon reduction," says Daniel Meere, financial services specialist at PA Consulting Group.

Moreover, financing will be critical when it comes to the large infrastructure projects needed to meet these goals. A recent study* by Accenture and Barclays found that reducing

European emissions to 83 per cent of 1990 levels by 2020 would require €2,900bn (\$4,054bn) in funding to finance the development, procurement and implementation of 15 commercially viable low-carbon technologies.

"One of the big issues in the low-carbon economy is finance," says Nick Robins, head of HSBC's Climate Change Centre of Excellence. "Clean-tech solutions invariably have higher upfront capital costs, balanced by much lower operating costs, whether it's efficient buildings or wind farms. The question is therefore how you mobilise that finance to bridge the gap."

Further out on the horizon, new mechanisms for managing resource consumption and offsetting companies' environmental footprints will create opportunities for financial instruments. These include water trading rights and forest bonds, as well as ecosystem services payments, whereby local communities receive financial incentives to protect natural resources.

However, banks remain cautious when it comes to developing these products and services. For some banks, environmental sustainability may fall lower on the list of strategic priorities than returning to profitability.

A 2008 report** by Ceres, a US-based coalition of investors and environmental groups, found that only a handful of the 40 banks surveyed had started integrating climate risks into their lending practices by either setting targets to reduce greenhouse gas emissions in their lending portfolios or pricing carbon into finance decisions.

Peter Lacy, head of sustainability for Europe, Africa and Latin America at Accenture, the consultancy, sees a more posi-



Doubling up: HSBC Brazil has changed to dual-fuel (ethanol and petrol) cars to reduce CO₂ emissions

itive picture when it comes to large institutions' approach to environmental sustainability.

"Most of the top banks are now aware that this is an important part of the future set of capital flows into areas such as infrastructure," he says. "They recognise it as a trend that requires financing and therefore something they need to build into their portfolios."

However, he also says that the activity of the broader banking community in this area remains mixed. While some are experimenting with carbon trading desks and renewable energy project finance teams, most of these initiatives remain small scale.

"I'm not sure that the top leadership in a lot of banks has really switched on to the idea that this is a serious growth driver," says Mr Lacy. "And to some, it remains to be seen whether it is. You have to have some dispassionate caution that says most of the projections are still just that: projections."

But if private-sector institutions are not yet fully engaged in the financing of clean technology and energy efficiency – and with substantial amounts of money yet to flow into low-carbon technologies – the public sector could help.

For a start, governments could match the difference between the interest rate banks offer when lending to sustainable projects and that for commercial projects.

Mr Meere at PA says: "That might be a way of sensibly allocating some of the government funding behind these initiatives, providing an incentive for banks to offer these products and creating the right conversion imperative for people to save money on a loan by choosing sustainable products."

At a global level, the United Nations Environment Programme has recognised the importance of the financial sector in supporting environmental sustainability.

In 1991 it launched the Unep

Finance Initiative, which is aimed at promoting the integration of environmental considerations throughout the sector's operations and services and encouraging private sector investment in clean technologies, products and services.

Mr Robins at HSBC also sees a role for the public sector. He points to the potential for a "green bank" to support investment in new low-carbon infrastructure.

"A public finance institution could help to 'crowd in' the private sector, for example, by co-investing, guaranteeing loans or providing insurance against construction risks," he says.

"So, as well as a policy response, there is also a need for an institutional response to get finance flowing."

* *Carbon Capital: Financing the low carbon economy, Barclays/Accenture, 2011*

** *Corporate Governance and Climate Change: The Banking Sector, Ceres, 2008*

Profile KKR takes its portfolio green

With strategies such as energy efficiency and water conservation increasingly seen as creating corporate value, it makes sense that sustainability could be of interest to a firm that is in the business of acquiring companies and increasing their profitability and competitiveness.

This was the reason that Kohlberg Kravis Roberts, one of the pioneers of the leveraged buy-out industry, decided to go into partnership with Environmental Defense Fund, a US environmental advocacy.

"The private equity model lends itself to environmental innovation," says Gwen Ruta, director of the Fund's corporate partnerships programme.

"One way of creating value is improving the operations of the companies they take over and manage. So the focus on better management is consistent with better environmental management."

In addition, private equity firms tend to hold their companies for five to seven years, says Ms Ruta. "So, getting returns on environmental investment might be easier than for those doing quarterly reporting."

For the Fund, the partnership represented an opportunity to have an impact on a broad range of companies within the KKR portfolio. "Private equity holdings represent about 10 per cent of GDP in the US, so it's a very big chunk of the economy," says Ms Ruta.

Starting initially with three of its companies – US Foodservice, Sealy and Primedia – KKR and the Fund have developed a "Green Portfolio" within the firm's portfolio of companies.

Clearly, however, the environmental issues facing a company such as US Foodservice, a food distributor, are very different from those encountered by Sealy, a mattress maker, or Primedia, a magazine publishing company.

"What we tried to do was develop a framework that applied to any company," says Elizabeth Seeger, who helps manage KKR's responsible investment efforts. "It's not so much prescriptive as to help companies think through these issues and identify what's most relevant to them."

The firm also wanted to

manage the environmental improvements in its companies in the same way it manages improvements in areas such as supply chain management, procurement and product roll-outs – through its KKR Capstone team of operational experts who work with KKR portfolio companies.

The KKR Capstone team is responsible for working with the companies in the Green Portfolio programme to measure, manage and improve their environmental performance.

"When we built the programme we wanted to make sure it made sense to the way KKR interfaced with its companies in general," says Ms Seeger.

Moreover, lessons learnt in one company can in fact be applied to others. "One of the surprising benefits of the programme is that, even when companies are completely different from each other, there are shared challenges and opportunities to share best practices," says Ms Seeger.

So far, the partnership has paid off in both environmental and financial terms. Across eight companies in the Green Portfolio, the programme has avoided the generation of 345,000 tonnes of greenhouse gas emissions and 1.2m tonnes in solid waste and made collective operating savings of \$160m.

"That got people's attention," says Ms Ruta. "And it's totally consistent with what they do – they take over companies and figure out how to manage them more efficiently. We're just adding an environmental lens to that."

Sarah Murray



Seeger: KKR programme had surprising benefits

Boosting staff involvement makes good financial sense

Engaging employees

Positive effects are seen on morale, retention and recruiting, says **Joseph Milton**

As companies recognise the need to be sustainable and environmentally responsible, many are finding ways to involve their staff in green programmes.

Engaging workers is good for morale, with the knock-on effect of improving recruitment and retention, potentially helping to attract the best talent and saving companies money.

Improving staff engagement is a serious financial consideration. Gallup, a management consultancy estimates that disengagement in the US costs more than \$300bn (£186bn) every year in lost productivity alone, and in 2008 it estimated the cost to the British economy at between \$59.4bn (\$95bn) and \$64.7bn.

In the same year, a report compiled by the UK Institute of Employment Studies found that increasing investment in engagement by 10 per cent generated an extra £1,500 of profit per employee annually.

Ways in which companies involve their staff in green activities range from encouraging people to make sure lights and computers are switched off to training "climate champions" within the organisation, and in one case even installing beehives at company headquarters.

"We had an overwhelming response when we asked staff if they wanted to train as beekeepers," says Kitty Corrigan, deputy editor of Country Living magazine at London-based The National Magazine Company. "We now have 30 volunteer beekeepers and 30,000 bees. We harvested 50lb of honey last summer."

It's all part of the company's drive to lead the way in green matters. "For years now, we've done all

the more generic things such as automatically switching off computers," says Diane Thorpe, head of house services. "Now, we have to think more laterally about engaging with our workforce."

Forster, a UK-based public relations company with 35 staff also prioritises green engagement. It has a pool of bikes and other useful gadgets. "We also have wormeries for compostable waste and grow vegetables on site," says Joanna Foy, Forster's environmental officer.

The company also encourages staff to travel to work sustainably by offering them five minutes extra holiday time per day for walking or cycling in, equating to 2.5 extra days off each year.

At the larger end of the scale, HSBC, which has won several accolades for good green practice and employs more than 300,000 staff worldwide, has been running a "climate champion" programme since 2007.

Recently expanded to include senior executives as well as lower-level staff, 2,200 people will have passed through the scheme by the end of this year.

"We ask participants to tell their teams and bosses about what they learned," says Bill Thomas, global head of sustainability for HSBC technology and services. "We're trying to embed sustainability into the thinking of our managers."



Beekeeping can give employees a buzz

Sky, a British satellite broadcaster, is another large company keen to engage staff in green activities, by offering cashback as an incentive to buy hybrid cars, for example.

"We also do lots of environmental volunteering," says Jo Fox, head of The Bigger Picture, Sky's programme to ensure sustainability is at the core of its business. "More than 4,400 staff took part over the past year alone."

Although it is hard to measure, such moves appear, at least anecdotally, to have a positive effect on staff morale, and on recruitment and retention.

"People do want to help the planet, they just don't always know how"

An environmentally responsible image is becoming important for companies that wish to attract the best recruits.

"The green agenda is a key consideration for the younger generation when choosing where to work," says James Arnott, senior executive in talent & organisation performance practice of Accenture, the consultancy.

Ms Thorpe says applicants for jobs at The National Magazine Company "are now asking how important green initiatives

are to the business". The same is true at Sky: "If potential applicants believe we have a strong environmental record, they're more likely to apply to Sky and be happier to stay here," says Ms Fox.

In terms of retaining existing staff, Ms Foy says that 97 per cent of Forster employees agree the company's green initiatives make it an appealing place to work, while, at HSBC, Mr Thomas says employees have been overwhelmingly positive about the "climate champion" programme.

"We've never had a programme before where 100 per cent of the people said 'we really liked it'," he says. "People do want to help the planet, they just don't always know how."

When HSBC staff were asked how they felt about working at the bank, Mr Thomas says the highest scoring item was the company's sustainability work, and Ms Fox says 88 per cent of Sky employees said environmental volunteering made them proud to work there.

Mr Arnott at Accenture says losing a staff member costs between 0.8 and 1.8 times the employee's salary, so improving retention saves money.

But he thinks it would be hard to tease out the financial value of improved staff retention through environmental engagement alone, because there are many factors in play when employees choose where to work.

Mr Thomas agrees: "We haven't measured the effect on retention at HSBC, and we don't have any plans to."

But Ms Fox says Sky hopes to measure the impact of green engagement by comparing staff that volunteer with those that do not.

"We expect to see those that have volunteered perform better, have better attendance rates, and stay with the business longer," she says.

That could be an important step towards pinning a financial value on green staff engagement

Madrid. Spain.

ie school of biology

"...use data to generate crucial insights, relevant to decision makers..."

Master in Global Environmental Change

10-month hands on approach program in Madrid.

Quantitative analysis and Geographic Information Systems applied to global environmental change.

In association with IE Business School, ranked among the top business schools in the world.



IE School of Biology
mgec@ie.edu | www.ie.edu/mgec

Business & the Environment

Exchange system mooted for liquid assets

Water trading

The idea is an alternative way to allocate resources, reports Sarah Murray

Water pricing has often proved a controversial means of managing the consumption of this valuable resource. However, as global water scarcity attracts increasing attention, some argue that an alternative means of imposing a price on water could be through water trading. "Markets are excellent at allocating scarce resources," says David Festa, head of land, water and wildlife at Environmental Defense Fund, a US environmental advocacy. "They send scarce resources to the highest value use."

In water trading, individuals, companies or governments in water-stressed areas make deals to buy from those in regions of abundance. While informal water trades often take place in agricultural settings, formal water trading systems have yet to become a widespread phenomenon.

However, examples are emerging. A well-established one is the system that has been operating since the early 1980s in Australia, where large volumes of water are traded around the Murray-Darling basin.

In China's Ningxia region, new industrial and energy plants that want to use water from the Yellow River are now required to repair, maintain and improve irrigation channels before they are allocated their quota. More efficient irrigation saves billions of gallons of agricultural water, which can then be used by the power facilities and factories.

Models are likely to vary between formal trading structures, such as the exchange established in Australia, and individual dealmaking. Arrangements for water trading could be temporary or long-term.

Of course, unlike carbon, water trading deals tend to be local or regional, since water is a heavy commodity, difficult and expensive to move over long distances. And while nature's infrastructure – water basins and rivers – provides a means of transferring water in some places, elsewhere this could require substantial infrastructure investment.

Moreover, water's value varies according to its relative abundance and quality. "Water is simply not a global commodity, largely because of its weight, but also because of its attributes," says Piet Klop, acting director of the Envest (Environmental Intelligence for Tomorrow's Markets) research initiative at the World Resources Institute, a US environmental think-tank.

"Carbon from Bangladesh is the same as carbon from Minnesota – with water, it matters whether it's water in Maine or water in Spain," he says.

An even bigger obstacle to the spread of water trading is its regula-



Trading place: water is a scarce resource in Australia's Murray-Darling basin, as shown by low levels in the Murray River

Alamy

Investors Seeking transparency on murky issues around water sustainability and security

"For a diversified investor with a long-term horizon and broadly invested in sectors exposed to water-related risk, responsible corporate water management is important."

So write the authors of an investor expectations report from Norges Bank Investment Management, which manages the Norwegian government's pension fund. The statement shows how investors are becoming increasingly interested in corporate responses to the threat of global water stress.

However, compared with climate change, water is relatively new to the investment community. In the venture capital world, for example, most of the clean-technology investment focus remains on energy-related companies.

"It's challenging to find water investments to make where the companies are scaling quickly," says Diana Propper De Callejon, a general partner at Expansion Capital Partners, a venture capital firm specialising in clean-tech companies.

Ms Propper De Callejon puts this down to trends within two of the potential customer groups for water technologies. First, governments responsible for water provision are

experiencing severe budget cuts. Second, big water-hungry companies tend to be developing management tools internally, focusing on reducing consumption and recycling water.

Given the risks posed by the prospect of global water stress, the activities of this latter group are of growing interest to their shareholders.

"We're talking about physical risk in terms of availability and supply in the longer term," says Julie Frieder, senior sustainability analyst at Calvert Investments, one of the largest socially responsible investment (SRI) funds.

Added to this is regulatory risk and the way emerging local, national and international legislative frameworks are likely to drive companies' water costs. "For certain brands where there is a need for a licence to operate, there is also reputation risk," adds Ms Frieder.

While awareness is growing among investors of the need to know whether the companies they invest in are addressing these risks, levels of engagement vary. "We're behind where we are on carbon with understanding and awareness," says Marcus Norton, head of CDP Water Disclosure, part of the Carbon Disclosure Project that requests companies to report on their

environmental risks and opportunities.

Part of the challenge for investors is that water is a commodity shared by whole communities. Dave Tickner, head of fresh water at WWF, says that even if a company is highly water-efficient, a nearby factory or farm could still be depleting supplies. So, companies may need to work with local governments to ensure the water management regime is a sustainable one.

Mr Tickner says investors should be asking companies whether they have mapped any of their operations and supply chains in relation to areas where water is scarce, whether they have a water risk strategy in place and whether they are talking to suppliers and local authorities about promotion of water efficiency. "Finally," he adds, how are they sharing information on this. Are they being transparent?

Investors are increasingly showing interest in transparency on water issues. In 2011, the second year CDP has asked businesses to report their use and management of water, the number of institutional investors signing the request has risen from 137 in 2010 to 354, with investors now representing \$43,000bn in assets.

However, the challenge for investors

looking for company data on water risks is in establishing what form that information should take and what level of detail is required.

In the CDP Water Disclosure questionnaire, questions are divided into three sections: water management and governance; identification of risks and opportunities; and water accounting.

"I can envisage pushing towards less global reporting and a greater focus on reporting on at-risk regions," says Mr Norton. "There's a debate about what the right metrics are, but in the next couple of years, the field will move forward. At the moment it's a bit of learning by doing."

Ms Frieder warns against information overload and the danger of investors imposing water-reporting demands on companies so onerous they prove counter-productive.

He says: "The challenge is to not create a new set of requirements for companies. We don't want another 25 pages in a sustainability report – [water management] has to be integrated into a corporate social responsibility culture."

Sarah Murray

tory complexities. A fundamental precondition to water trading, for example, is the separation of water rights from land rights. Registries of water rights also need to be established before such rights can be traded.

Complexity is increased by the fact that the amount of water available varies over time. "Water rights cannot be an absolute number that you're guaranteed to get every year," says Mr Klop. "A water right has to be defined as a share of the water that's actually available."

And because water is required for the preservation of the natural environment and ecosystems, argues Mr Festa, governments need to put a cap on the amount that is available to be traded, leaving sufficient reserves for other purposes. EDF is pushing for this in parts of the US.

Stuart Orr, freshwater manager at WWF International, agrees: "While it's good to think about how to get the price right and about functioning markets, we have to be careful that we don't have people looking to make quick money in water rights without any consideration of social or environmental benefits or losses."

He adds: "There's a huge social and environmental component to water that makes just treating it as an economic good tricky."

However, despite the complexities involved, as experts ponder how to put a fair price on water, many

'Water rights cannot be an absolute number that you're guaranteed to get every year. They have to be a share of the water that's actually available'

believe some form of trading could provide an alternative to going down the controversial road of universal water pricing.

Mr Klop thinks that, if the right regulations are in place, water trading has huge potential. "We can't take water for granted any more," he says. "And if we can't agree on raising prices in line with scarcity across the board, then we can do it through the back door with these emerging trades and markets."

For companies, water trading could provide greater certainty and reduce the regulatory burden of obtaining permits every time they need to, using water for business purposes. Mechanisms could be put in place that resemble carbon offsetting programmes, with companies buying water to put into wetlands, for example.

"Now is the time to start looking at how to bring markets back in to allocate water among users in a way that is fluid, dynamic and flexible while being policed appropriately," says Mr Festa. "This is complicated, but I would argue that it's far less complicated than figuring out how governments should replace the whole market in moving water around."

Valuing nature can cut business costs

Biodiversity

More companies are factoring in ecosystem services as part of planning, writes Rod Newing

Biodiversity brings stability to ecosystems, which provide a wide range of "services" that businesses rely on, yet receive free of charge.

Because there is no financial cost for these services, they have been treated as being without value.

This has resulted in corporate decisions that damage the ecosystem, reduce biodiversity and put the resources the business relies on at risk.

Trucost, an environmental data provider, estimates the annual environmental costs from global human activity at about \$6,600bn. "The top 3,000 companies globally alone are responsible for \$2,200bn of damage," says Richard Mattison, its chief operating officer.

The solution is to value these ecosystem services so that they can become part of planning and decision-making. "This is nothing to do with corporate social responsibility and the green agenda, it is hard-nosed economics," says Chris Knight, assistant director of the forestry and ecosystems team within PwC's sustainability practice.

"Companies are recognising that the valuation frameworks applied in economic appraisal techniques around the world are going to change."

There are about 30 ecosys-

tem services. They include providing crops, livestock, water and fibre; photosynthesis and pollination; and regulating nutrients, air quality, pest control, local climate, erosion, flood, drought and disease.

If the economic value of those services are taken into account, decisions automatically promote sustainability. For instance, the cost of timber is not just the cost of permits and extraction, but the ecosystem cost of growing the timber and the role of a forest in erosion control, soil fertility, water management, eco-tourism, and so on.

Mainstreaming the Economics of Nature is a recent report from The Economics of Ecosystems and Biodiversity (TEEB), a study of the economic case for the conservation of ecosystems and biodiversity. It says that valuation is "a tool to help recalibrate the faulty economic compass that has led us to decisions that are prejudicial to both our well-being and that of future generations."

"The invisibility of biodiversity values has often encouraged inefficient use or even destruction of the natural capital that is the foundation of our economies."

There is a feeling that regulation and environmental campaigns are not enough on their own and that businesses must become involved. The World Business Council for Sustainable Development, a global coalition of some 200 companies, is about to release a guide to corporate ecosystem valuation.

"Much biodiversity and ecosystem policy and regulation relies on the private

sector in its implementation," says James Griffiths, the Council's managing director for ecosystems. "It is often the private sector that has the resources and flexibility to develop and implement solutions at scale, so it is essential that objectives are designed to be relevant for business."

Mr Mattison says the challenge is to link scientific evidence with business thinking. Valuing an environmental service allows a business to compare it with other costs and profitability and feed into its risk management processes.

"Valuation of ecosystem services has tended to be in hectares of land, so there might be a monetary value for a hectare of timber of a certain type," he says. "However, businesses record tonnes or cubic metres of wood."

Valuation typically only uses market values for crops, meat and fish. James Spurgeon, technical direc-

'Understanding the values will lead to better, more sustainable decision-making'

tor for environmental economics at Environmental Resources Management, a consultancy, believes "benefit" or "value" transfer is likely to become an important technique. This involves adjusting existing value estimates and is relatively inexpensive.

Damage to an ecosystem, such as coral reef, wetland or forest, can be valued in terms of lost productivity of



Seeing the wood for the trees is only part of the story AFP

crops or fish. The value could be the cost of replacing a degraded ecosystem service, such as water filtration or sea defences.

An example is Bavaria, SABMiller's business in Colombia. Large areas of mountainous uplands had been cleared of vegetation to make way for crops and grazing, allowing soil to erode into the river. The company valued the water supply on the basis of the projected increased cost of more intense filtration.

The company is working with the Nature Conservancy and Bogotá Water Company to pay farmers to protect the ecosystem by moving cattle lower down and planting native species, to improve the water supply and quality.

"Companies face the same resource risks as communities and ecologies," says Andy Wales, SABMiller's head of sustainable development. "The private sector has an important role to play in partnerships which seek to protect water and biodiversity."

Puma, the German sports wear business, claimed this

week to be the first international company to have developed an environmental profit and loss account. The aim, it says, is "to integrate the value of nature into its business decision-making, with a desire to protect the earth's natural resources."

"We believe this will enable Puma, and corporations in general, to measure their impact on the environment more closely, and ultimately build a more sustainable business model," says Jochen Zeitz, chief executive of Puma and chief sustainability officer of PPR, its holding company.

When businesses measure and value the services they receive from the ecosystem, they can save costs, manage risk and develop new business opportunities.

"Valuation is coming and it is in the interests of businesses to understand how it works," concludes Mr Spurgeon. "It's far from a perfect science, but having a better understanding of the values, even approximate, will lead to better, more sustainable decision-making."

Carmaker goes with flow to keep water running

Case study VW de México

Reforestation has ensured vital supply, writes Rod Newing

A reliable water supply is crucial for all industrial operations, particularly Volkswagen de México's car plant in the Puebla Tlaxcala valley in Mexico.

It is in a region where the water-supply situation is particularly critical, threatening its annual water requirement of 1.1m cubic metres.

"Although we treat and recycle our waste water, it has been obvious for years that there would not be enough fresh water for the growing city of Puebla and the industrial area near by," says Raúl Rodríguez, director of the company's environmental department in Puebla.

"Securing a reliable water supply was critical to ensure the stability of our production."

The company joined forces with specialists from the Comisión Nacional de Áreas Naturales Protegidas and the Free University of Mexico City to examine the groundwater situation.

They found that water replenishment in the valley depended substantially on the functionality of the deforested slopes of the volcanoes Popocatepetl and Iztaccihuatl in the Iztapa national park, the source region of the river Atoyac.

In 2008, Volkswagen decided to engage in a multi-

stakeholder reforestation programme in the region, to allow the ecosystem's water provisioning function to be restored. Some 300,000 Hartweg's pines, a native Mexican tree, were planted between the two volcanoes at an altitude of up to 4,000m.

To help the water cycle, a rainwater infiltration project was carried out. Some 21,000 pits were dug out and about 100 larger earth-banks were erected throughout the watershed. These help retain the

Over the long term, the additional forest will help lock in carbon dioxide

rainwater and encourage it to soak into the deeper soil layers to recharge the aquifer.

The project cost the company \$500,000 and was completed in two years.

The work will enable more than 1.6m additional cubic metres of water to be fed into the ground reserves in the source region each year, significantly more water than Volkswagen de

México itself consumes in a year.

Over the long term, the additional forest will also help to lock in carbon dioxide, improve living conditions for the native fauna, and allow reintroduction of native species.

"This additional water supply will support Volkswagen's long-term operations in the region," says Mr Rodríguez.

"From a broader perspective, this project will create employment opportunities, provide a space for environmental education, help prevent water rationing, rising water prices and unrest in the local population, therefore guaranteeing Volkswagen's licence to operate in Mexico."

Volkswagen de México will lend further support to maintaining and managing the recultivated forest slopes until 2017, costing \$120,000 a year.

It has also committed itself to a similar project covering another 200 hectares, together with the 39 suppliers that also wish to protect the water resource and biodiversity.

This will require an initial investment of \$200,000 between all the project members and an annual investment of \$60,000 for the next 10 years.

Mr Rodríguez says repairing an ecosystem recognises the value of water and ensures a sustainable future for the business.



Rodríguez: sees broader benefits of the project to reforest slopes of two volcanoes