

Moving green*



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Moving green checklist

1 Introduction

With a 4% GDP share, the Transportation and Logistics sector is of significant value to the Dutch economy. The sector provides jobs for about 3% to 6% of the labour force.¹ However, the sector is also responsible for a negative impact on the environment through greenhouse gas emissions, air and noise pollution, large land use and considerable use of natural energy resources. As the awareness of and concerns about the environment and global warming increase, which are of particular importance in the months prior to the global Copenhagen Climate Conference, the pressure on companies in, among others, the transportation and logistics (T&L) sector to become more sustainable is increasing.

Sustainability as we know it today is more and more an integrated part of a company's long term strategy. Generally speaking, primary drivers of sustainability for transportation and logistics companies, alongside the growing environmental concerns, are:

- Cost reduction;
- Meeting regulatory requirements;
- Corporate reputation;
- Increasing supply chain pressure;
- Business opportunities / competitive advantage;
- Obtaining subsidies.

As a result of the economic downturn the demand for transportation and logistics has declined rapidly. Freight transport volumes in the Netherlands are predicted to decline by 11.8% in 2009 on average, according to estimates by the Dutch research institute NEA². In spite of the (temporarily) decreasing demand for transportation and logistics, emission of greenhouse gases, the contribution to noise and air pollution and the use of natural energy resources by the sector are still having a strong, adverse effect on the environment.

The Transport and Environment Reporting Mechanism (TERM) report by the European Environment Agency has shown that although awareness of the environmental

impact by the sector is increasing, up until now improved performance and/or a shift to more sustainable transport have hardly been achieved. In fact, due to growing freight and passenger transport volumes over the past years, greenhouse gas emissions have increased, air quality in urban areas is still an area of concern and large parts of the European and Dutch population are still exposed to high decibel levels.

Whereas the industrial and agricultural sectors in the Netherlands have been able to reduce their greenhouse gas emissions in recent years, emission by the transport sector has increased. Although the sector has implemented several measures to improve its energy efficiency (for example through fuel-efficient engines), efforts have been overtaken by the strong increase in demand. Due to the recent decline in demand though, the negative impact is expected to decrease as well.

This document describes the results of an effort by PricewaterhouseCoopers to provide insight into what is happening in terms of sustainability in the Transportation and Logistics sector in the Netherlands. We trust that you will find this document useful as a guide for a significant yet complicated issue in an industry that faces several challenges simultaneously. We would like to invite you to use this tool to your advantage. Please do not hesitate to contact us should it raise any questions relevant for your business.

Yours sincerely



Jeroen Boonacker

1 Depending on the definition

2 <http://www.nea.nl/index.cfm/16,1021,html>

2 Moving green: opportunity for improvement

The Transport and Logistics industry is characterised by strong growth over the past decennia, although the economic downturn has strongly influenced this trend. The existing pressure on pricing has become even stronger because of the downturn, which means that little room is left for companies to manoeuvre and play with pricing structures.

Over the summer of 2009, PwC conducted a benchmark study to investigate which issues are perceived to be critical success factors to the Dutch Transport and Logistics sector in overcoming the economic downturn. As part of this benchmark study, attention was paid to the role of sustainability for the first time. In particular, we were interested to find out how the issue of conducting a sustainable business fits into the strategies companies employ to survive the current economic downturn. Approximately 50 companies responded to an electronic questionnaire, representing companies in road and rail transport, aviation, shipping and warehousing.

The preliminary results of the benchmark study were discussed in June '09 at a round table meeting with representatives of the Dutch Transport and Logistics sector.

The results of the benchmark study clearly indicate that – as a critical success factor in surviving the downturn – sustainability is most certainly not at the top of the priority list. In fact, of the eleven options given, sustainable business was without a doubt considered to be the least important focus area for making it through the downturn. Figure 1 below shows the average value that the respondents attached to each of the given critical success factors.

To put this into context, it is important to note that, on average, the respondents regarded sustainable business as only slightly less important than 'neutral' (indicated by a score of 3). Even though sustainability is generally considered to be an unavoidable issue that needs attention, the Dutch Transportation and Logistics sector does not consider it to be a direct impulse for their business.

The ranking of the critical success factors to survive the economic downturn is illustrated in the figure below.

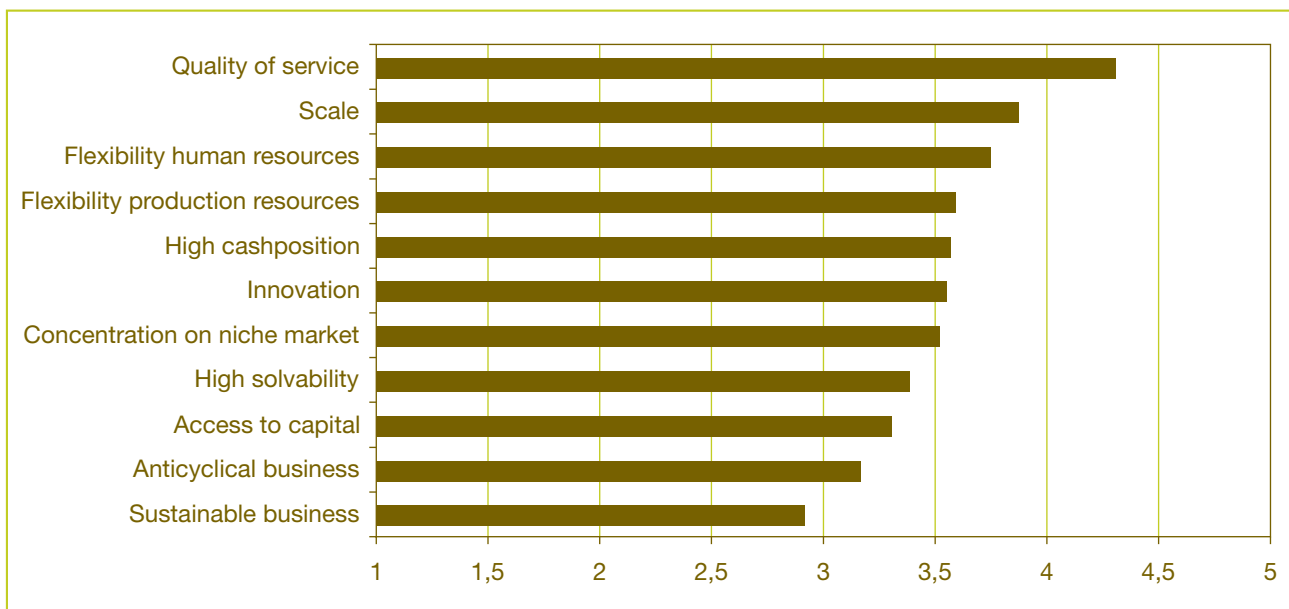


Figure 1: Critical success factors (1: insignificant, 5: very significant)

Those respondents who indicated that sustainable business plays a neutral to very important role as a critical success factor in overcoming the economic downturn (60% of the respondents) were presented with a number of possible measures and were asked to indicate whether these measures were part of the organisation's sustainability policy. The results are illustrated in the figure below.

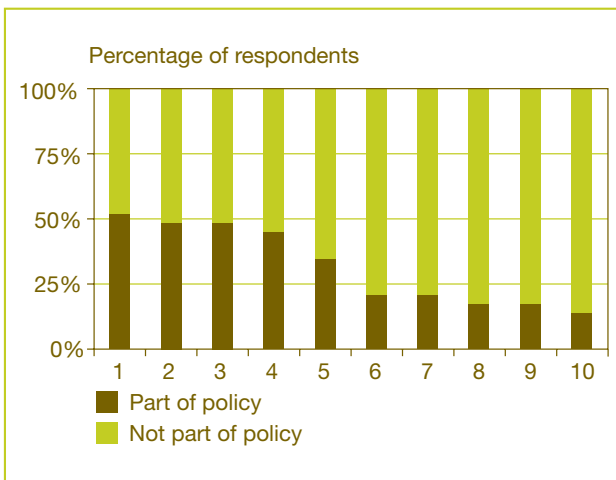


Figure 2: Elements of policy

The main results are discussed below.

The most popular measures were those which typically require a relatively low investment and lead to a reduction in costs. They included working with targets for the loading degree and to create a more efficient transport of goods and to stimulate behaviour that will lead to higher fuel-efficiency and a lower environmental impact. The implementation of, in particular, the first measure is however frustrated by regulations limiting the hours for deliveries. From group discussions with players in the industry, it has become clear that due to these regulations, it has become extremely difficult to really take logistical efficiency to a new level. After all, if the time-frame for deliveries is limited, more trucks will need to be deployed at the same time in order to make the same amount of deliveries within that time-frame.

Overview of elements

- 1 We work with targets for the loading degree to establish a more efficient transportation of goods
- 2 We have an active fleet management policy which is aimed at lowering the environmental impact of our business
- 3 The operational management policy is aimed at stimulating behaviour that leads to higher fuel efficiency and a lower environmental impact in general
- 4 We make use of alternative energy sources for transport
- 5 Targets for health and safety are set and periodically monitored
- 6 The company's carbon footprint is known and monitored
- 7 We report externally on our environmental impact
- 8 We apply sustainability criteria to our procurement (for example green electricity)
- 9 We participate in initiatives for the development of sustainable products that could be applicable to our sector
- 10 We actively work on lowering the environmental impact of our supply chain

This unavoidably leads to lower loading levels and lower efficiency in terms of routing.

Another popular measure was the organisation's participation or initiative in the development or innovation of sustainable applications that could be relevant to the industry. In general, this is a measure that shows commitment without requiring large investments.

One measure that has been answered affirmatively by an interestingly large number of respondents is that the company actively works to lower the environmental impact of the supply chain in which they operate. Shippers are perceived to be demanding when it comes to the sustainability efforts undertaken by the transporters. However, group discussions within the

sector also indicate that in the end the shippers, who maintain a very strong negotiating position, are mainly interested in pricing at the level of procurement. Due to the very small margins the sector has to operate with and the fact that sustainable business in practice is not rewarded by shippers, any attempt to present sustainability-related efforts as a competitive advantage, seems to be perceived as futile and possibly even as a waste of investment. The potential for lowering the environmental impact of the supply chain is therefore limited in practice, despite the fact that many respondents cite the supply chain as a focus area.

The results of the benchmark study also reveal concern within the sector about the problem of climate change; a sense of responsibility certainly exists and active participation in the search for innovative solutions is part of most of the companies' policies. Having said that, the results of the benchmark study also indicate that companies have limited insight into their own carbon footprint, and do not typically report on their environmental issues. In this respect, the respondents seem to be lagging behind compared to other players in the sector (among others TNT, KLM/Air France, Havenbedrijf Rotterdam, Schiphol), as the transportation sector achieved the highest average score in the Transparency Benchmark of 2008, published annually by the Dutch Ministry of Economic Affairs and which assesses businesses in terms of their non-financial reporting.

Although the ambition exists within the sector to make business more sustainable, there are some serious barriers that keep the sector from really focussing on the issue. Respondents believe that this is merely caused by the small margins due to high competition within the sector, regulation related to time-frames for delivery in shopping centres and the strong position of the shippers who, despite the focus on sustainability at Board Room level, do not (yet) put this focus into practice in their procurement strategies and remain preoccupied mainly with pricing. A first step towards integrating sustainability better in the sector would be for companies struggling with this issue to start monitoring and reporting on key

environmental and social performance indicators. This is necessary in order to gain insight into the current environmental and social impact and to make improvements without large initial investments where possible.

Bearing this in mind, it is of utmost importance to stay abreast of changes to relevant regulations at a national and European level when it comes to operating in a sustainable way. The next chapter focuses on government, EU and sector initiatives relevant to the current transportation and logistics business, and which may lead to new rules and regulations in the (near) future.

3 Sustainability measures

3.1 General regulations at national and European levels

In 2007, the Dutch government formulated a set of climate and energy targets for 2020. These targets include: cutting emissions of greenhouse gases by 30% in 2020 compared to 1990 levels, doubling the rate of annual energy efficiency improvement from 1% to 2 % in the coming years and reaching a 20% share of renewable energy by 2020. To achieve these targets, the Climate and Energy Plan (Clean and Efficient) was introduced in September 2007.

“Clean and Efficient” refers to measures for traffic and transport which encompass stimulating efficient vehicles (tax measures), efficient driving habits and cleaner fuels for both the business sector and the private sector. Examples are the exploration of a new set of instruments for stimulating more efficient transport modalities, green taxes (making cleaner and more efficient cars cheaper), stimulation of natural gas and biogas by extending the Dutch pump network, implementation of stringent European norms regarding CO₂ emissions and raising the mandatory percentage of bio fuels in transport.

The Dutch government aims to be a frontrunner when it comes to sustainable mobility and has set itself the goal to have one of the most efficient transport systems in Europe by 2020. At the moment, the government is working on the development of a road-pricing system to reduce congestion, pollution and also traffic accidents – locally known as *‘Rekening Rijden’*. The road tax and sales tax that are currently in use will be phased out and replaced by this kilometre fee system. It is self-evident that this will have a major impact on transporters active in the Netherlands.

The EU has also implemented several measures to make transport greener and more sustainable. To intensify its efforts, the European Commission presented two different initiatives. The first focuses on making the polluter pay through internalising the external costs of transport. This means that individual modes of transport must pay for “hidden” costs generated by their contribution to air pollution, noise, climate change, congestion and accidents in road transport. The second

initiative includes a package of regulatory instruments combined with infrastructure and technological measures.

Co-modality (the optimised use of all modes of transport) is another item high on the European Commission’s agenda. Choosing the mode that is most efficient in both economic and in sustainability terms can create a high level of mobility and at the same time protect the environment. With the Marco Polo II programme, the EU aims to shift a substantial part of the expected increase in road freight traffic to more sustainable forms of transport, such as shipping or rail, or to a combination of modes of transport in which road travel is as short as possible.

3.2 Airlines

Air transport is often considered to be a major contributor of greenhouse gas emissions. Compared to other transport modes however, total absolute emissions by the aviation sector are much smaller than, for example, greenhouse gas (GHG) emissions by road transport. On the other hand, the sector has shown higher volume growth over the past decade and a half.

GHG emissions in the EU caused by the international aviation industry increased by 89% between 1990 and 2006. Almost a quarter of the reductions realised by other sectors are outweighed by the increasing GHG emission caused by aircrafts. Of all transport modes, the aviation sector has the largest environmental impact, whether measured per passenger kilometre, per tonne kilometre or per time / money spent. Besides climate change, the aviation industry also contributes heavily to air- and noise pollution.

Organisations, governments and companies involved in the aviation industry are working on ways to reduce the industry’s impact on the environment. The measures mostly concern investments in technology, improving operational efficiency, improving infrastructure and the development of policies, regulations and market incentives.

Some examples are:

- Inclusion of aviation under the Emission Trading Scheme (ETS) with effect from 2012;
- Governments stimulating measures to limit nuisance and create quieter, cleaner flights;
- Investments by the industry in modifications to the fleet or more fuel-efficient aircrafts;
- Research to develop alternative fuels and more advanced sustainable technology;
- Several aviation companies offer their customers programmes to off-set the carbon emissions of their flights.

So far, developments in technology have reduced noise pollution by aircrafts by 50% compared to 10 years ago. The economic downturn, however, is resulting in a delay in sustainability initiatives, such as fleet modernisation and the switch to aeroplanes that produce fewer emissions and less noise.

3.3 Shipping

The shipping and ports sector contributes significantly to climate change as well as air pollution. Emissions of air pollutants, such as nitrogen oxides (NOx), sulphur oxides (SOx) and fine dusts by this industry, especially sea transport and ports, are considerable. Dutch sea ships have the highest emission of air pollutants by ships, based on fuel sales and freight tonnes loaded in the EU. If no measures are taken, in 2020 transport by sea will account for 5% of the average particulate matter concentration and 17% of the nitrogen oxide concentration in the air in the Netherlands³.

Although shipping is one of the most efficient ways of freight transport, it generates substantial quantities of GHG emissions. As a result of the explosive growth of sea transport in recent decades, emissions by the maritime sector have increased sharply. Other environmental impacts of the shipping industry include

wastewater discharges (sewage, ballast water, cooling water etc.), the generation and handling of solid and hazardous waste and noise pollution.

Several initiatives have been started by different stakeholders to improve sustainability within the sector:

- Development of measures by the 'International Maritime Organization' to reduce and control GHG emissions from international shipping
- Development by the Dutch government of a package of measures that will limit air pollution, the damage to the climate and pollution caused by recycling ships, reducing water pollution and pursuing permanent improvement;
- The implementation of a global cap on sulphur emissions of 0.5% by 2020 by the IMO;
- Examining the possibility for the EU to include maritime transport in the European emissions trading system;
- Research into new ways of enhancing energy efficiency of ships.
- Port of Rotterdam has set a goal for contributing to the improvement of air quality in the region of Rotterdam. By creating shore-to-ship connections in urban harbour areas, the local output of NOx and fine dust will reduce.

3.4 Railways

Rail transport has a smaller environmental impact than most other transport modes. According to the International Union of Railways, passenger transport by rail is about 4 times more efficient than travelling by car and three times more than by aeroplane. In the case of freight transport, rail transport generates eight times less CO₂ emissions than trucks and four times less than inland waterways.

3 Responsible Shipping and a Vital fleet / Ministry of transport, public works and water management (2008)
http://www.verkeerenwaterstaat.nl/english/Images/resp-ship-_tcm249-240488.pdf

As a result of pressure from society and as a way to manage energy costs, companies in the rail sector are increasingly working on further reducing their impact on the environment. Some examples are:

- The agreement between the members of the Community of European Railway and Infrastructure Companies (CER) to reduce CO₂ emissions by 30% by 2020 (compared to 1990 levels);
- Improving energy efficiency by the deployment of more efficient trains;
- Educating drivers on energy-efficient driving techniques;
- Avoiding unscheduled stops and putting up acoustic screens and noise dampers to reduce noise pollution;
- Investments in innovative technologies, such as fuel cells as power sources and more energy efficient levitation technologies;
- Revision of the Dutch Noise Abatement Act to further reduce noise pollution from (rail)traffic;
- Implementation of emission limits for railcar engines and locomotives by the EU;
- Several research projects, including the EU funded GREEN project carrying out research on near-zero emissions technologies for heavy-duty rail engine subsystems.

3.5 Road transport

As a result of several government measures, initiatives by transportation and logistics companies and improved technology, road transport has made substantial improvements in becoming a greener sector over the years. Road transport volumes in the Netherlands, however, have grown significantly. The reduction in environmental impact accomplished over the last decade has been outpaced by the increased volumes of transport. As road transport volumes are expected to grow further in the future, measures have to be taken to stop the impact of the sector on the environment from growing further.

Road transport is one of the main sources of GHG emissions for both freight and passenger transport. In addition, the sector is a large contributor to air pollutant emission and one of the main sources of transportation noise pollution. Measures to reduce CO₂ emissions by road transport concern mainly road pricing, (stimulating) the use of alternative fuels, increasing the energy efficiency of vehicles and changing driving behaviour. In addition, several strategies have been and are being developed to mitigate the sector's impact on air quality (e.g. through a voluntary subsidy scheme for carbon filters) and noise pollution (e.g. through developing quieter surfaces).

Regulatory and industry measures include:

- The Dutch Clean and Efficient programme aiming to reduce CO₂ emissions by the transport sector and increase the use of (bio)fuels;
- Reduction of taxes for low CO₂ emission cars;
- Fiscal benefits for alternative fuels;
- The introduction of environmental zones for the highest-polluting trucks;
- Stimulating behavioural change;
- The development of a national road pricing system to reduce congestion and the impact of traffic on the environment in the Netherlands;
- Experiments with megatrucks;
- Investments by the industry in advanced low-mass materials, structures and components to reduce vehicle weight;
- Research in creating cleaner, more efficient engines and ways to use alternative fuels;
- Research in making vehicle dismantling and recycling more sustainable;
- The EU Marco Polo II programme aimed at shifting freight transport from the road to sea, rail and inland waterways.

3.6 Conclusion

Sustainability efforts in the Transportation and Logistics sector are mainly focused on minimising climate change, reducing environmental impact, cost reduction and improving health and safety. There are several measures that can be implemented by the sector to make their businesses 'greener'. For T&L companies to become more sustainable mainly involves improving the technical efficiency of transportation equipment and deploying transportation as efficiently as possible.

Some of the most common steps taken by companies to accomplish the above are:

- Deploying energy saving- and/or alternative energy-driven transportation;
- Reducing the distance of transport by optimising distribution models;
- Operating vehicles more efficiently by innovating systems (for example route planning software);
- Teaching and rewarding drivers for more fuel-efficient driving behaviour.

Although some of the largest companies in the Transportation and Logistics sector are among the most sustainable companies in the world (TNT, Air France-KLM), there are also still players that hardly pay any attention to reducing climate change or environmental impact at all. Of the twenty largest logistics service providers active in the Netherlands, the majority are in some way working on reducing their impact on the environment. Only a few, however, have made it part of their corporate strategy or are reporting their progress in a sustainability report.

As the above shows, many developments are underway that will have a significant impact on either parts of or on the entire Transportation and Logistics sector. The next chapter serves as a guide for senior management in dealing with these developments and provides business leaders with a number of challenging questions on how to put a sustainability strategy into action and move green!

4 Moving green: developing a new mindset

Due to the economic downturn, businesses have entered into a period of transformation and increased uncertainty. As business leaders, CEO's need to confidently navigate their companies through this period of transformation and prepare for the changing business environment.

Sustainability and climate change have moved from an afterthought to the top of many boardroom agendas as companies recognise potential growth opportunities that may be realised by taking responsible action. As such, they undeniably play a role in the current re-gauging of businesses' top priorities and key issues. By managing the shift to a low carbon and energy-efficient organisation, embracing new technologies and behaviours and integrating cooperation in supply chains, transportation and logistics companies can minimise their environmental impact while enhancing shareholders' value and maximising their competitiveness.

4.1 The CEO role in leading the way to a sustainable future

The CEO's vision and leadership are vital components of accelerating the corporate response to climate change and sustainable business.

In this section, we present five ways in which corporate leaders can make a difference to their business and industry by creating a sustainable business.

In general, we envisage every CEO to have five key roles:

- Role 1 – Seizing growth opportunities
- Role 2 – Preparing and protecting your business
- Role 3 – Setting an example
- Role 4 – Empowering others
- Role 5 – Helping define sustainable policies

Some of these roles are crucial for survival, for example role 2 – preparing and protecting the business; others help define success, not just in tackling sustainability, but gaining a strategic advantage over competitors.

For each of the key CEO roles, we have prepared a checklist with key questions. This checklist can be found at the back of this booklet. This checklist is meant to serve as a guide for determining the extent to which you are open to allowing sustainability to play a role in developing a new mindset for your business. Corporate leaders who are able to adapt and innovate shall be the leaders of the next generation; those who take a back seat risk being left behind.

PricewaterhouseCoopers Sustainability practice

PricewaterhouseCoopers is one of the largest and most frequently consulted sustainability practice focussing on the business impact of sustainability. We offer an integrated approach to sustainability, enabling you to consider the implications across the full spectrum of your corporate activities. Whether it is supply chain optimisation, or optimising revenue-generating sustainability and climate opportunities, determining your carbon footprint or verifying your corporate sustainability report, we are able to draw on a large pool of interdisciplinary specialists with an excellent pedigree in the environmental and business consulting areas.

Moving green*

Checklist

Checklist 1

SEIZING GROWTH OPPORTUNITIES	
Do you understand how sustainability and climate change affect your markets, regulations and technology?	<input type="checkbox"/>
Have you considered how sustainability/climate change can help you move into new markets or radically reshape existing markets?	<input type="checkbox"/>
Are you making a dedicated effort to turn energy saving and energy efficiency into a business advantage?	<input type="checkbox"/>
Are you looking into sustainability/climate change and envisioning growth opportunities through consumers'/shippers' eyes?	<input type="checkbox"/>

Checklist 2

PREPARING AND PROTECTING THE BUSINESS	
Have you assessed your company's vulnerability to climate change?	<input type="checkbox"/>
Have you looked beyond asset vulnerability to potential disruption of your markets, your supply chain and your workforce?	<input type="checkbox"/>
Are you aware of how climate change (regulation) could affect your investment planning and decisions?	<input type="checkbox"/>
How exposed are your company and markets to increased regulation on climate change?	<input type="checkbox"/>
Have you considered scenario-planning to support capital allocation decisions?	<input type="checkbox"/>

Checklist 3

SETTING AN EXAMPLE	
Do you have robust emission reduction strategies and reporting mechanisms in place within your company?	<input type="checkbox"/>
Do they form part of the mainstream governance of your company?	<input type="checkbox"/>
Are emission reductions and energy efficiency measures key performance indicators that are discussed at board meetings?	<input type="checkbox"/>
Does your company have a renewable energy strategy?	<input type="checkbox"/>
Are you working with your suppliers and clients on reducing emissions in your supply chain?	<input type="checkbox"/>
Are you actively exploring opportunities to lead or join sector-wide initiatives to champion climate change solutions and reduce emissions in your sector?	<input type="checkbox"/>
Are you communicating your initiatives and your successes to your stakeholders?	<input type="checkbox"/>

Checklist 4

EMPOWERING OTHERS	
Are you empowering staff within your company – to engage positively with the sustainability/climate change issue, both at work and at home?	<input type="checkbox"/>
Are there mechanisms in place so that staff can put forward or implement their own ideas to address sustainability/climate change? How are you measuring their impacts?	<input type="checkbox"/>
Can you use action(s) on sustainability and climate change to help recruit and retain the best people?	<input type="checkbox"/>
Are you looking at ways to help your customers reduce their carbon footprint or contribute to climate change solutions?	<input type="checkbox"/>

Checklist 5

HELPING TO DEFINE CLIMATE CHANGE POLICIES	
Are you making use of your leverage in influencing policies on climate change?	<input type="checkbox"/>
Have you communicated your position on sustainability and climate change policies?	<input type="checkbox"/>
Are you reaching out to organisations / governments that can influence sustainability and climate policies?	<input type="checkbox"/>
Are you leveraging media interest in sustainability and climate change to help get your message across?	<input type="checkbox"/>

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