CARBON DISCLOSURE PROJECT

14

Reducing Risk And Driving Business Value

CDP Supply Chain Report 2012-13

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CDP Supply Chain Member Companies

CDP Supply Chain Program

The CDP Supply Chain Program is designed to promote information sharing and innovation between CDP Supply Chain membersorganizations that have begun to integrate carbon management strategy into their supply chains and the companies that provide goods and services to them as we transition to a lowcarbon economy. To learn more about becoming a member, please contact us or visit the Members and Signatories section of www.cdproject.net or email membership@cdproject.net.

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Executive Summary

In 2012, the Carbon Disclosure Project (CDP) conducted its fifth annual information request for member companies and their suppliers. Companies that responded indicated that they are more aware than ever of the considerable risks that climate change poses to their global supply chains. Growing percentages of respondents are making investments to reduce emissions and drive cost savings, though a notable capability gap exists between the best-performing CDP Supply Chain members and their suppliers. In addition, companies are increasingly aware of the potential business value that can be created through more sustainable supply chains—from new products to premium pricing to improved brand value to better awareness of consumer trends.

For this study, the CDP information request was sent to more than 6000 suppliers on behalf of 52 of the 54 Supply Chain members. Responses were received from 2415 organizations, including 52 members. The findings are significant in that the members represent combined spending power of almost US\$1 trillion. (For more about the research methodology, see the sidebar on, "About the CDP Supply Chain Report"). Key findings of this year's report are:

1. Supply chain risks from climate change are greater than ever

The business continuity risk to the global corporate supply chain posed by climate change is clear. 70% of the respondents this year identify a current or future risk related to climate change—risks with a potential to significantly affect business or revenue. More than half of the supply chain risks identified due to drought and precipitation extremes are already affecting respondents' operations or are expected to have an effect within the next five years.

2. A persistent performance gap exists between CDP Supply Chain members and their suppliers

This year's questionnaire results affirm a persistent gap between CDP Supply Chain members and their suppliers when it comes to sustainable supply chain performance. Only 38% of suppliers, compared with 92% of CDP Supply Chain members, report having a target for emissions reduction. The percentage of members investing in emissions reductions initiatives is 69%; by contrast only 27% of responding suppliers invest in such initiatives.

Perhaps not surprisingly, the results being achieved differ greatly; 63% of members report year-on-year emissions reductions while only 29% of suppliers indicate such an achievement. 73% of members report monetary savings from emission reductions activities compared with only 29% of suppliers.

The 29 percent of suppliers that have reduced their emissions have saved some \$13.7bn as a result. If the remaining proportion of suppliers were to achieve reductions at that rate, this implies aggregate potential savings of all 2,363 suppliers could reach three times that figure.

3. Leading companies are investing and making a difference

Compared with 2011 figures, we see an increase in the proportion of suppliers realizing benefits in areas of both monetary savings and emissions reductions. For example, the proportion of suppliers reporting emissions reductions has increased from 19% in 2011 to 29% in 2012.

Engaging effectively with suppliers is characteristic of supply chain sustainability leaders. Although only 42% of suppliers receiving one invitation report physical risks related to climate change, the percentage is above 67% for those receiving three or more invitations. This suggests that as more members reach out to each supplier, the supplier's performance and awareness of climate change risk improves significantly.

Risk identification is one of the key factors that is spurring investments in emission reductions activities. Regulations do not appear to be the primary driver here, but rather concerns about business continuity based on a growing awareness of physical risks and customer demands. Of the total number of respondents investing in emission reductions initiatives, 73% say they feel that climate change presents a physical risk to their operations while just 13% identify regulation as a sole driver of risk.

4. Supply chain sustainability is creating additional business value

There is a stronger business case than ever before for supply chain sustainability. We see business value manifesting itself in the following ways:

• This year's respondents are realizing business value through multiple areas such as operational efficiency, emissions reductions, product and service innovation and premium pricing for low-carbon products. Better integration of climate change strategy with overall business strategy is another success factor: among the respondents that integrate climate change strategy with business strategy, 41% report year-on-year emissions reductions compared with 33% who reported such reductions in 2011.

Among responding CDP Supply Chain members, 43% reported emissions reductions in 2011; in 2012, that number rises to 63%. Similarly, 39% of members reported monetary savings from emissions reductions activities in 2011; in 2012, that number grows to 73%.

- Leveraging reputation through sustainability credentials and increasing a company's awareness of consumer behavior related to sustainability are identified by respondents as top opportunities for business value creation this year. Respondents identify "changing consumer behaviors" and "reputation" as the top two opportunities related to climate change that can increase intangible business value. The percentage of respondents identifying "changing consumer behavior" as a key driver of intangible value-generating opportunities from climate change has risen from 17% to 23%, while those identifying "reputation" has increased from 16% to 19%.
- 5. To achieve a leadership position in supply chain sustainability, companies should have strong capabilities in data, process and governance Making investments in sustainable supply chains is important, but it must also be accompanied by efforts to improve capabilities in several areas: the ability to manage data and measure progress; to embed

sustainability in day-to-day processes; and to manage multiple parts of the organization more effectively. Sound performance measurement and effective decision making depends on high quality data. Good data management practices can help reduce emissions, improve operational efficiency and support revenue-generating opportunities. Common data collection forums like CDP Supply Chain help in reducing data redundancy, lowering data management costs and improving risk management capabilities. From a process perspective, interventions such as supplier engagement, cross-functional collaboration and communications are increasingly important. Finally, companies are discovering that they can benefit if traditional approaches to governance are accompanied by activities to build sponsorship among key executives and manage change across all affected stakeholders.

As CDP respondents look to the future, they should be aware of the importance both of protecting against risk and of driving value for their businesses. The risks posed by climate change to business operations and continuity are very real, and supply chain professionals have an important role to play in mitigating those risks. At the same time, sustainability in the supply chain also provides a lens to identify opportunities for revenuegenerating innovations.



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About the CDP Supply Chain Report

The CDP Supply Chain Program aims to drive action on climate change amongst both purchasing companies and their suppliers. The program provides a platform for companies and other purchasing organizations to collect business-critical climate change information from their suppliers. The program currently has 54 members (including one US city). The majority of members are located in Europe (22) and North America (19). Seven members are located in Latin America. 2415 companies responded to this year's information request including 52 member companies and 2363 of their suppliers, a 39% response rate. While that rate is slightly lower than in past years (it was 44% in 2011), the questionnaires were sent to far more companies (over 6000), leading to a more comprehensive picture of supply chain emissions among members. In addition, for a second consecutive year, the response rates in Europe and Asia outpace the rate for

suppliers in North America and other regions. The response rate for Latin America, 50%, is consistent with last year's results.

CDP also worked with Accenture to survey the CDP Supply Chain member companies on their own sustainable supply chain strategies. Select members were interviewed to draw additional qualitative insights. A team of experts from CDP and Accenture analyzed responses to the survey and conducted supporting outside research to gather insights and case studies for this report.

Scoring Methodology: All responses to the 2012 supplier information request were scored on two factors by CDP Scoring Partners: 1) transparency, in the form of a numeric disclosure score; and 2) action on climate change, in the form of a letter-grade performance band. In 2010,

SUPPLIER PARTICIPATION IN CDP INFORMATION REQUEST

- Answered questionnaire
- Declined to participate
- No response



SUPPLIER RESPONSE RATE BY REGION

- Answered questionnaire
- Declined to participate
- No response
- I 2011 response rate

			Total Invitations
Asia	66%	6	
66%	2 <mark>%</mark>	32%	624
Europe	68	3%	
62%	2 <mark>%</mark>	36%	1990
ROW	50%		
59%	3 <mark>%</mark>	38%	121
Latin America	50%		
48%	3 <mark>%</mark>	49%	554
North America	50%		
42%	3%	55%	4676
			7965

in recognition of a promising trend in improved transparency among large public companies, CDP introduced a performance component to its scoring system to recognize companies that are taking action on climate change. Last year, the same performance scoring was introduced to the CDP Supply Chain program and all

PERFORMANCE BAND BY SECTOR

•	A/A-	•	D
•	В	•	Е
	C		

suppliers with a sufficiently high disclosure score (\geq 50) also received a performance band. Disclosure scores under 50 do not necessarily indicate poor performance; rather, they indicate insufficient information to evaluate performance.

FirstCarbon Solutions, the CDP Supply Chain scoring partner, performed the scoring evaluations of the suppliers who do not overlap with or were not evaluated in the Investor CDP program in 2012—a majority of the 2415 who responded to the information request.

Ν

Consu	mer Dis	scretionary	/								
3% 1	2%	17%			28%				40%	С	195
Consu	mer Sta	aples									
4% S	9%	13%		31%	, S			43	3%	С	198
Energy	/										
5%	12%		35	%		24	1%		24%	С	17
Financ	ials										
14%		20%		20)%		23%		23%	С	35
Health	Care										
7%		34%			11%	17%			31%	D	35
Indust	rials										
2% 13	3%	239	%		26%	6			36%	С	261
Inform	ation Te	chnology									
3%	18%		23%	6		26%			30%	С	184
Materi	als										
3%	15%		26%			28%			28%	С	172
Teleco	mmunic	cation serv	/ice							_	
3%	249	%	1	21%		18%			34%	D	38
Utilitie	s										
4% <mark></mark>		30%			37	%		7%	22%	D	27
								-			

Note: Only companies with disclosure scores greater than 50 are scored for performance

A/A-D В Е С Ν Asia 2% 16% 30% 30% 22% С 123 Europe 5% 19% 26% 23% 27% 392 D Latin America 13% 31% 56% D 62 North America 1%13%17% 28% 41% С 567 ROW 28% 22% 33% 17% С 18

PERFORMANCE BAND BY REGION

DISCLOSURE SCORES BY REGION (MIN, MAX, 25-75TH PERCENTILE AND AVERAGE)



The Accenture Perspective

Accenture has been privileged to work with CDP on this year's CDP Supply Chain report, the second year of this important collaboration. The report also draws on a body of diverse supply chain sustainability research conducted by Accenture. This includes the findings from "Sustainability 24", a day long virtual conversation involving business, government and civil society leaders from more than twenty countries. In addition, we have also leveraged our "Lessons from Leaders" series capturing viewpoints of multiple C-suite leaders, including the CEO, Chief Strategy Officer, Chief Procurement Officer and Chief Supply Chain Officer.

An important benefit of this year's report is the ability to learn from the insights and case studies from participating companies. We have found that the intentions of executives to improve sustainability in their supply chains are generally high, but that challenges remain in moving forward in a practical, cost-effective manner. For example, a 2010 Accenture-UN Global compact Study¹ revealed that 88% of CEOs believe they should be integrating sustainability into their supply chain, but only 54% believed that this has been achieved within their company. Clearly, actual performance is lagging behind expectations.

Moving up the maturity curve

We have found, based on our work and our conversations with C-level executives, that companies appear to be moving up the maturity curve of supply chain sustainability (See Figure).



1. UN Global Compact-Accenture, "A New Era of Sustainability," CEO Study 2010, July 2010.

In the first stage, companies focus on improving transparency, working with an evolving set of performance indicators and setting up basic information systems to capture sustainability benefits. Companies often begin by setting up their own data collection systems but as more and more stakeholders ask for similar information they are expected to adopt universally accepted reporting standards and platforms. For all the forward momentum when it comes to sustainability, Accenture finds that data collection and management remains an often elusive piece of the puzzle. Although data is being collected through scorecards, questionnaires, audits, etc., best practices have yet to be determined when it comes to analyzing data and using the results to improve practice and process. More often than not, this data ends up just being reports of numbers, not information and knowledge that can actually be used for better decision making.

In the next stage of the maturity curve, companies develop the capability to integrate sustainability within their operations, including the design of products and services. Embedding sustainability early on in the innovation cycle and establishing operational capabilities to profitably meet market demand at scale while being sustainable could help companies capture significant value. For example, Accenture estimates that retailers can realize 3% to 5% reductions in supply chain costs through green packaging initiatives in addition to revenue uplift from environmentally conscious consumers.

Finally, at the most mature level, the business possibilities of sustainable supply chains lead companies to develop new business models to capture value and drive new markets. An important trend here is buyers becoming venture capitalists. Buyers looking to invest and develop suppliers' capabilities may be more likely to benefit from their improved competencies. Sustainable technologies could also significantly alter the business models; for example digital distribution of music has permanently changed the music industry's business model; cloud computing is bringing down technology cost barriers.

Some companies are even adopting business models that involve working with a range of non-traditional partners such as NGOs, or even competitors within their own sector. The investment community may also be a factor in the increased role of sustainability. As investors recognize the business case of sustainability, the call for action is becoming louder every day.

Accenture believes that a dual perspective with regard to supply chain sustainability will become increasingly important: a focus on social and environmental concerns on the one hand, and on increased business value on the other.

Introduction: The Business Value of Supply Chain Sustainability

Why is attention to supply chain sustainability good for business? The supply chain accounts for between 50% and 70% of both total expenses and greenhouse-gas emissions for most manufacturing companies.² Supply chains can also be exceedingly fragile. As supply chains have been extended in response to globalization, they have become increasingly vulnerable to natural disasters, civil conflict and many other common risks. Companies participating in this year's CDP Supply Chain Program are deeply engaged with the risks that climate change poses to their global supply chains. These risks mean that supply chain professionals have a tremendous opportunity to help their organizations reduce greenhouse gas emissions and cut costs.

This year's CDP Supply Chain Report focuses on the following five key insights.

1. Supply chain risks from climate change are greater than ever

70% of the respondents this year identify a current or future risk related to climate change with a potential to significantly affect business or revenue.

The findings show clearly that members and suppliers perceive increased supply chain vulnerability due to physical risks such as precipitation extremes, hurricanes and flooding, and water shortages. Indeed, more than half of the instances identified by respondents indicate that some level of impact would be felt within the next five years (See Figure 1). Many leading companies are taking innovative steps to address climate change risks from a supply chain sustainability perspective.

Questionnaire respondents see precipitation and temperature extremes, droughts, weather events (hurricanes, typhoons), and the rise in sea levels as having major cost implications. Other concerns include the potential for reduction or disruption in production capacity, reduced demand for goods and services, and even the inability to do business (See Figure 2).

2. "Managing Supply Chain Greenhouse Gas Emissions," United States Environmental Protection Agency, December 2010.

- 1 COMPANIES ARE ALREADY FEELING THE IMPACT OF DROUGHT AND PRECIPITATION EXTREMES ON THEIR BUSINESS
- Current
- 1-5 years
- 6-10 years
- > 10 years
- Unknown

Timeline for impact from change in precipitation extremes and droughts

32%	19%	11%	9%	29%			
Note: Responding companies identify 463 instances of potential impacts from change							

in precipitation and droughts on the supply chain. The expected timeframe distribution is shown above.

2 POTENTIAL IMPACTS OF CHANGE IN PRECIPITATION EXTREMES OR DROUGHTS ON BUSINESS OPERATIONS

- 44% Reduction/disruption in production capacity
- 31% Increased operational costs
- 11% Inability to do business
- 6% Reduced demand for goods/services
- 4% Increased capital costs
- 3% Other
 - % Wider social disadvantages



Companies identified multiple risk related impacts and the data is a collection of all instances identified by reporting companies. Of the 459 instances identified; 75% indicated reduction/ disruption in production capacity or increased operational cost as impacts of precipitation extremes/droughts

Several companies responding to this year's questionnaire detail some of the potential effects of precipitation extremes on their operations. At beauty products company L'Oreal³, extreme rain and extreme dry weather can both adversely affect operations and the company's supply chain. For example, the flooding of any of the company's riverside premises would likely lead to the suspension of operations, which would reduce the output of that business unit. In addition, the company also faces risks in terms of supply chain interruption, which was the case in Thailand following the 2011 floods.

A related environmental concern has to do with water risks which, in turn, can put the entire supply chain at risk. More than half of the members surveyed rank water-related supply chain risks as either high or medium. Yet only a quarter of those companies have engaged in the work to identify risks at the level of detail necessary to mitigate potential supply chain disruptions (See Sidebar, Johnson & Johnson). Supplier awareness is an even greater concern. 19% of respondents indicate that their suppliers are not aware of the water risks affecting operations; another 38% say that their suppliers are aware but not actively engaged in addressing the challenge (See Figure 3).

Supply chain-related risk costs are present every day, yet too few discussions of supply chain risk management deal with the reduction of these present costs in a systematic, quantitative way. Better analytics skills will be important to engaging in supply chain risk-cost analysis.

3. From CDP Information Request 2012

	Low Medium							
	High							
low	/ do you ra	nk the risk? (%)						
Sup	oly Chain D	isruption						
	24%	21%	55%					
Reg	ulations							
29%	6	29%	42%					
Ener	ду							
<mark>3</mark> %		57%	40%	0				
Wate	ər							
46%	6	18	3% 36%	%				
V=54,	9 members did no	ot respond to the CDP-Acc	centure survey	↓				
Men (% r	n ber surve esponded y	y /es)		, i	How engage related risks	d are your supj ?	pliers in mai	naging wate
	25%	50%	2	25%	19%	38%	6%	37%
•	Yes				Supplie	rs are not aware	e e	
•	Not Appli	cable			Supplie Suppier Not App	rs aware but no s are completel blicable	t engaged y engaged	

3 SPECIFIC MITIGATION STRATEGIES FOR WATER RISKS ARE GENERALLY NOT YET IN PLACE



Mitigating water risks: Johnson & Johnson⁴

Johnson & Johnson is particularly active in the area of mitigating water risks because water and natural ingredients are crucial components in its products, especially in the consumer sector, which comprised US\$14.9 billion in sales in 2011. Johnson & Johnson actively works to identify regions that are exposed to current and projected water risks. The company has analyzed its current and future water scarcity risk using tools such as the World Business **Council on Sustainable Development's Global** Water Tool. After identifying regions that may experience these risks, Johnson & Johnson has actively worked to reduce its risk by decreasing water consumption and implementing robust risk management programs.

2. A persistent performance gap exists between CDP Supply Chain members and their suppliers

92% of members report having a target for emissions reductions compared with only 38% of suppliers. The percentage of suppliers investing in emission reduction initiatives has remained at 27% for several years, while the percentage of CDP Supply Chain members that report making such investments has jumped from 39% in 2011 to 69% in 2012.

Awareness of the broad suite of risks affecting sustainable supply chains is another major difference between CDP Supply Chain members and suppliers. While 79% of members identify regulatory, physical and other climaterelated risks, only 31% of suppliers are able to name this full suite of risks. And 90% of members report identifying physical risks related to climate change compared with only 45% of suppliers.

Given these differences, it is perhaps not surprising that the performance of members and suppliers in terms of emissions reductions and cost savings differs considerably. For example, 63% of members report year-on-year emissions reductions; only 29% of suppliers report such an achievement. Similarly, while 73% of members report monetary savings from emission reductions activities, only 29% of suppliers claim to have achieved such savings. Suppliers are reporting \$13.7 bil in savings, this implies aggregate potential savings of all 2,363 suppliers could reach three times that figure.

What can be done to improve supplier performance? CDP Supply Chain members continue to use risk management as a key parameter to manage supplier rewards and incentives. As reported by Imperial Tobacco, "When suppliers ask for price increases due to energy costs, we first turn to their CDP reporting history. We require reporting on energy and climate risk management before granting these increases unless there are exceptional circumstances."⁵

Better collaboration with suppliers to develop their capabilities is another key to success. Stronger governance is also important. Although suppliers are maturing along the curve of integrating their climate change strategies with business strategies, board-level oversight still appears to be missing. As in last year's questionnaire response, over 60% of suppliers report having an integrated climate change strategy but only 34% report board-level oversight. By contrast, 81% of members report board-level sponsorship for climate change-related activities.

^{4.} From CDP Information Request 2012

^{5.} From CDP Information Request 2012

Guest Commentary

Under the weather: building resilience to extreme events on the path to green and inclusive growth



"Major climate events are already impacting today's business bottom lines. Insurance costs and availability are being dramatically affected in many parts of the world. Private companies cannot and should not wait for international climate agreements."

By Rachel Kyte Vice President of Sustainable Development, World Bank

In 2011 the world experienced the highest disaster losses ever recorded, continuing a trend that has seen economic costs grow continuously—a total of US\$3.5 trillion over the past 30 years. Extreme weather events account for over 78% of the events recorded over the same period and is responsible for two-thirds of the losses (US\$2.6 trillion).

Recent experience is a stark reminder that no country, rich or poor, is immune from the impacts of disasters rooted in climate change. In Thailand, the 2011 floods resulted in losses of approximately US\$45 billion (or about 13% of GDP). The impacts spread across borders. Japan's industrial output, already suffering the consequences of the March 2011 tsunami, fell by 2.6% between October and November of that year due to disruptions in electronics and automotive supply chains. In the United States, extreme heat and the lack of rain in the summer of 2012 led to the worst drought in over half a century, with severe impacts on corn and soybean crops—impacts that are trickling down to food prices. In October 2012, superstorm Sandy created havoc on its path along the US Atlantic coast. The full extent of Sandy's economic impact is still uncertain, but it is estimated to be in the order of US\$50 billion.

Major climate events are already impacting today's business bottom lines. Insurance costs and availability are being dramatically affected in many parts of the world. Private companies cannot and should not wait for international climate agreements. As companies recognize opportunities and risks from climate change, they need to step up to the challenge and increase their climate-smart investments. Policymakers also need to step up now and help mitigate the profound risks of climate change. As countries and cities grow at a record pace—thus increasing exposure of the population to disasters—there is a unique, but rapidly closing, window of opportunity to invest in resilience and achieve green and inclusive growth. Without timely action, the potential for catastrophic consequences is high.

If we do not act now, we could experience a 4°C warmer world this century, with catastrophic consequences. The recent report Turn Down the Heat, commissioned by the World Bank, provides a clear and shocking picture of the state of the planet in a 4°C warmer world and the disruptive impacts on agriculture, water resources, ecosystems and human health. It concludes that while every region of the world will be affected, those least able to adapt-the poor and most vulnerable-will be hit hardest. While promoting aggressive mitigation efforts, we will have to remain focused on adaptation, helping developing countries in particular to build resilience to the impacts of these changes.

3. Leading companies are investing and making a difference

Despite the continued global economic slowdown, our study points to increases in investments to improve supply chain sustainability and reduce emissions. For example, the percentage of members investing in emission reductions initiatives was 39% in 2011 but rises to 69% in 2012. The percentage of suppliers investing remains flat this year, perhaps due to the continued global economic slowdown, though absolute numbers of suppliers reporting investments has risen from 482 to 642.

Extreme weather is a likely catalyst for company action on climate change, with physical risk identified as a major driver of investment. Of the 678 companies investing in emission reductions initiatives, three quarters (73 percent) say they feel that climate change presents a physical risk to their operations; just 13% identify regulation as a sole driver of risk.

Additionally, recognizing climate risk also appears to improve carbon performance: of the 716 companies that have reduced their emissions just 14% did not acknowledge any climate change-related risks.

Many investments pay back relatively quickly. The percentage of initiatives with a short pay back period has increased from 20% in 2011 to 26% in 2012 (See Figure 4).

Members show the inclination to undertake longer-term initiatives, demonstrating their increasing commitment to supply chain sustainability. They, on average, take on 10% to 15% more projects with longer payback periods compared to suppliers.

This long-term attitude when it comes to the return on investments is aptly summarized by Diageo's CFO, Deirdre Mahlan: "In my view, effective management is about making choices that support the efficient growth of the business over the long-term. It is insufficient, and even irresponsible, to consider only short-term payback when making investment decisions⁶."

Members and suppliers who are realizing the shortest payback periods are investing in behavioral change activities (See Figure 5). For suppliers, transportation is also a key activity with more than two-thirds of initiatives with payback periods of less than a year.

6. "Business resilience in an uncertain, resource-constrained world," CDP Global 500 Climate Change Report 2012, Carbon Disclosure Project. .

4 NUMBER OF INVESTMENT ACTIVITIES REPORTED BY MEMBERS AND SUPPLIERS



5 PAYBACK PERIOD FOR INVESTMENT ACTIVITIES REPORTED BY MEMBERS AND SUPPLIERS

Suppliare 2012

• < 1 year • 1-3 years • > 3 years

Members	2012
---------	------

Behavioral change				
679	%		13%	20%
Fugitive emissions r	eductions			
50%			50%	
Transportation: use				
33%		50%		17%
Transportation: fleet				
33%	17%		50%	
Energy efficiency: but	uilding fabi	ric		
28%	29%		43%	
Product design				
27%		60%		13%
Energy efficiency: pr	rocesses			
22%	50%			28%
Process emissions r	eductions			
16% 3	8%		46%	
Energy efficiency: but	uilding serv	/ices		
15%	53%		3	2%
Low carbon energy	purchase			
12% 25%		6	3%	
Low carbon energy	installation	I		
4% 17%		79%		

Suppliers 2012			
Behavioral change			
72	%	18%	10%
Transportation: use			
65%	,)	19%	16%
Process emissions re	eductions		
43%	24%	33	%
Transportation: fleet			
42%	17%	41%	
Low carbon energy p	ourchase		
41%	10%	49%	
Product design			
38%	24%	38%)
Energy efficiency: pro	ocesses		
38%	35%	2	7%
Energy efficiency: bu	ilding services		
30%	40%	30	1%
Energy efficiency: bu	ilding fabric		
18%	43%	39%	
Fugitive emissions re	ductions		
17% 29%		54%	
Low carbon energy ir	nstallation		
16% 18%		66%	

Eaton: impressive results from emission reductions initiatives **Diversified power management** company Eaton has engaged in several significant emission reductions activities. These include re-lighting, HVAC upgrades and compressor optimization at key manufacturing plants. In 2011, completed projects included lighting upgrades, building shell insulation, equipment upgrades, heat recovery, compressed air installation, and ventilator control and energy management. These projects will eliminate about 85,000 metric tons of greenhouse gas emissions per year. The company invested US\$17 million in capital costs for the upgrades and projects annual energy savings of US \$6 million – meaning the company could achieve payback on its investment in less than three years.⁷

- 6 INCREASING NUMBER OF MEMBERS AND SUPPLIERS ARE IDENTIFYING TANGIBLE BUSINESS BENEFITS SUCH AS EMISSIONS REDUCTION AND MONETARY SAVINGS
- No
 2011
 Monetary savings
 28% 72%
 Emissions reductions

81%

70%

70%

2012

19%

N 2011 = 1864

N 2012 = 2415

Monetary savings 30%

Emissions reductions

30%

Analysis of this year's questionnaire finds that increasing numbers of respondents are identifying hard business

Investment results

numbers of respondents are identifying hard business benefits from their sustainability initiatives. For example, compared with 2011 figures, we see an increase in the proportion of suppliers realizing benefits in areas of both monetary savings and emissions reductions (See Figure 6).

The number of suppliers reporting savings from emission reduction initiatives has risen from 505 to 686, and those reporting emissions reductions has risen from 328 to 683. Individual companies are reporting impressive results from these initiatives (See Sidebar on emission reductions activities at Eaton).

Among CDP Supply Chain members, 43% reported emissions reductions in 2011; in 2012, that number rises to 63%. Similarly, 39% of members reported monetary savings from sustainability programs in 2011; in 2012, the number grows to 73% (See Figure 7).

Member performance for Scope 1 and Scope 2 reporting is improving year over year, with 100% of members reporting in 2012. More than 60% of suppliers report Scope 1 or Scope 2 emissions.

Scope 3 emissions reporting has seen improvements across all 15 categories as defined by the Greenhouse Gas Protocol of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). Business travel and employee commuting continue to be the most widely reported categories for Scope 3 emissions.

7. From CDP Information Request 2012

2011

2012

- 7 CDP SUPPLY CHAIN MEMBERS REPORT MORE SUCCESS THIS YEAR WITH ACTIVITIES RELATED TO EMISSIONS REDUCTION

Guest Commentary

Walmart: a partnership with CDP Supply Chain to reduce suppliers' greenhouse gas emissions



In 2010, when Walmart committed to cutting 20 million metric tons of greenhouse gas emissions from its global supply chain over five years, the company turned to CDP Supply Chain to engage suppliers and help drive innovation in reducing greenhouse gas emissions.

Addressing greenhouse gas emissions and the carbon footprint at the world's largest retailer is no small task. But with aggressive targets to greatly reduce emissions, Walmart turned to CDP to help it measure and report on progress. CDP's science-based approach enables Walmart and suppliers to disclose only once.

Walmart set three major sustainability goals in 2005: to be supplied 100% by renewable energy, to create zero waste and to sell products that sustain people and the environment. As Walmart looked for new ways to work toward its goals, it realized it needed to address its global supply chain, which accounts for 90% of its overall carbon footprint, as well as its own operations, which account for the remaining 10%. To achieve its ambitious sustainability goals, Walmart realized it would have to work closely with its suppliers to innovate new approaches and collaborate on projects to reduce or eliminate greenhouse gas emissions at every step in the supply chain.

Walmart not only encourages suppliers to participate in the disclosure and reporting process, it also established processes and channels to facilitate communication and collaboration. It created walmartsustainabilityhub.com, a forum for suppliers to submit best practices and share success stories.

According to Rob Kaplan, Senior Manager of Sustainability at Walmart, "We know there are pre-competitive opportunities out there that create shared value for our partners. We just need to hear about them. We hope to open communication and collaboration channels with our supply chain partners to identify and share what's working in sustainability innovation." In 2012, Walmart requested CDP climate change disclosures from 3,000 of its largest suppliers by spend. Of the 1,100 suppliers who submitted complete responses, 58% of them reported more than 2,400 greenhouse gas emission reductions activities through CDP. Of these initiatives, 640 (27%) will pay back within the year and 1,247 (52%) will have a payback period of three years or less.

Walmart and CDP are working to encourage suppliers to improve their scores in the coming years by fully calculating and reporting their emissions footprints, introducing emission reductions targets, and showing progress toward their goals.

As suppliers implement and report emission reduction activities, Walmart hopes to capture qualifying projects that will contribute to the company's goal of reducing supply chain emissions by 20 million metric tons by 2015.

4. Supply chain sustainability is creating multiple forms of business value

Analysis of this year's CDP Supply Chain program results findings uncovers several important ways that companies are driving improved business value from their supply chain sustainability initiatives, beyond emissions reductions and cost savings. Integrating climate change strategy to business strategy is a key enabler for better performance. 41% report year-on-year emissions reductions compared with 33% who reported such reductions in 2011.

Product and service innovation

This year's response has strong evidence of companies looking for opportunities to leverage supply chain-based product and service innovation. New, low-carbon products are seen by respondents as a major driver of future growth. Dow Chemical, for example, sees enormous opportunity for growth through more sustainable products. The company believes that it can grow sales of clean-energy enabling products from US\$5 billion per year to US\$15 billion per year.⁸

A new package type developed by The Coca-Cola Company, PlantBottleT, looks, functions and recycles just like traditional polyethylene terephthalate (PET) plastic, but does so with a reduced carbon footprint. Coca-Cola estimates that, since 2009, use of PlantBottleT packaging has eliminated the equivalent of almost 100,000 metric tons of carbon dioxide emissions from its PET plastic bottles.⁹

10% of participating CDP Supply Chain members report that they are receiving more than 50% of revenues from low-carbon products; 16% report they are receiving at least 10% of revenues from such products. In five years, these numbers are anticipated to be 13% and 23%, respectively (See Figure 8).

Creating new services

Transforming a company's internal supply chain sustainability capabilities into a profitable service offered to customers is another important trend shown by the research. For example, BASF offers customers a large number of sustainability services through its "Success-Added Value through Sustainability-Initiative," including consultancy on energy management and assessment of products and value chains using eco-efficiency and lifecycle analyses.¹⁰

8 PERCENTAGE OF CDP SUPPLY CHAIN MEMBER RESPONDENTS REPORTING REVENUES FROM LOW-CARBON PRODUCTS

- More than 50%
- 10%-50%
- Less than 10%

 Today

 10%
 6%
 84%

 In 5 years

 13%
 10%
 77%

 N=52

Premium pricing opportunities

Another factor that can improve business value through sustainability is the opportunity to charge premium prices on products or services that carry with them a perceived sustainability benefit to the customer.

For example, Brazilian chemical company Braskem, has developed a new product called Green Polyethylene, based on the interest from its customers in low-carbon raw materials and also based on the company's experience in manufacturing with the use of ethanol. This product is a less expensive biopolymer, but is commanding a price premium over conventional polyethylene made using fossil fuels. This pricing was defined based on investments in new technology and on a lower scale compared with conventional polyethylene facilities.¹¹

Improving corporate reputations

According to respondents to the CDP information request, two especially important dimensions of the value of supply chain sustainability are positive effects on reputation/brand, and the manner in which it can lead to increased awareness of changing consumer behaviors (See Figure 9).

In addition, as employers look for an "edge" in attracting and retaining skilled workers, a company's reputation when it comes to sustainability and corporate social responsibility becomes more important. For example, News Corporation is increasingly aware of the importance of boosting its reputation in the area of environmental sustainability as a way to attract top talent. In their response to the CDP Supply Chain questionnaire, the company cited a Hill + Knowlton

9 IMPROVING CORPORATE REPUTATIONS AND UNDERSTANDING CONSUMER TRENDS ARE TWO IMPORTANT BENEFITS OF SUPPLY CHAIN SUSTAINABILITY EFFORTS

2011 2012 Changing consumer behavior 17% 23% Reputation 16% 19% -----**Other Drivers** 6% 7% Induced Changes in Human and Cultural Environment 3% 3% Fluctuating Socio-Economic Conditions 6% 3% Increasing Humanitarian Demands 2% N 2012 = 2415, N 2011 = 1864

study that found that 75% of top MBA students say corporate reputation will play a critical role in deciding where they want to work. The study—conducted among students at elite business schools in Europe, Asia, and the United States—found that 40% of those surveyed rated social responsibility as an "extremely" or "very" important measure of reputation; 34% made the same rating for having an effective environmental policy.¹³

Improving brand value

Achieving a reputation as an innovator and leader in green products, and in sustainable supply chain capabilities, is an important driver of brand value. Indeed, one recent study found that Honda's brand value increased 28% and GE's 17% because of their initiatives in improving supply chain and product sustainability.¹⁴

A recent Interbrand report¹⁵ notes three ways that companies' attention to environmental sustainability influences brand value:

- By creating new sources of revenue;
- By positively influencing customers' choices; and
- By helping companies adapt to future opportunities, supporting the longevity of the business.

Public perception of trends and new developments in sustainability are often closely linked to certain names and brands. For example, auto manufacturer Daimler has been a leader in supply chain improvements such as fuel-cell technologies. Daimler believes the reputational benefit of being the predominant player in developing and establishing fuel-cell technology can boost its recognition as a technology leader. Because of this recognition, people might choose to buy a Mercedes-Benz instead of a competitor's car because they believe the company is a leader in sustainable mobility.¹⁶

Higher revenues from new products at Philips **CDP Supply Chain members** in some cases are reporting dramatic sales increases from low-carbon products. At Philips, for example, the company's "EcoDesign" process aims to create products that have significantly less impact on the environment. Sales from Philips' green products increased in 2011 to 39% of the company's total sales and Philips is committed to increasing that percentage to 50% of total sales by 2015.12

The questionnaire respondents identify 495 potential instances of business opportunities driven by corporate reputation. More than half of those instances (55%) indicate a potential increase in demand for products and services (See Figure 10).

8. From CDP Information Request 2012

- 9. From CDP Information Request 2012
- 10. From CDP Information Request 2012
- 11. From CDP member interviews
- 12. From CDP Information Request 2012
- 13. Hill + Knowlton, 2007
- 14. Sustainability and its impact on brand value," Interbrand, 2010.
- 15. "Sustainable innovation: Staying true to your brand promise,"
- Interbrand, www.interbrand.com
- 16. From CDP Information Request 2012

10 POTENTIAL BENEFITS RELATED TO REPUTATION-DRIVEN OPPORTUNITIES DERIVED FROM CLIMATE CHANGE ACTIVITIES

- 55% Increased demand for existing products/services
- 10% Wider social benefits
- 9% Other
- 8% New products/business services
- 5% Increased stock price (market valuation)
- 5% Premium pricing opportunites
- 3% Reduced operational costs
- 2% Increased production capacity
- 1% Investment opportunites
- 1% Increase in capital availability
- 1% Reduced capital costs



Note: Companies identified 495 potential instances of opportunities driven from reputation. 55% of these indicated a potential increase in demand for products/services

Analysis includes data from 52 members, 2363 suppliers including 643 SMEs

BT: Emissions reductions that improve brand value

Telecommunications giant BT has seen important benefits to its brand value from its programs to reduce emissions and mitigate negative environmental effects. A wide variety of corporate stakeholders (consumers, business customers, suppliers, investors, governments and communities) are increasingly looking for BT to demonstrate a strong commitment to tackling climate change. BT's ability to respond to these needs has had a positive impact on the perception of BT's brand and reputation. In 2012, BT handled more than £2.7 billion in bids from customers who wanted to understand the company's credentials on corporate responsibility and sustainability, up from £2.1 billion in 2011.17

Understanding customer behaviors and trends

Improving business value from supply chain sustainability, and even achieving competitive advantage, often depends on being a first mover in the market. But that first-mover advantage depends, in turn, on developing a close understanding of customer behaviors and trends such that one can identify a customer need—and then capitalize on it—before a competitor does.

The respondents identify 579 instances of sustainability related opportunities based on consumer behavior. Almost 58% of these are expected to drive increased demand of existing products and service and another 27% are expected to drive demand for new products and services (See Figure 11).

The vast majority of respondents see increased demand for existing products and services as the key benefit; however, among these, North American and Latin American companies place more of an emphasis on new product development than European or Asian companies.

17. From CDP Information Request 2012



The business and societal benefits of investing in resource productivity

By Prof. Dr. Ernst von Weizsäcker Co-Chair, International Panel for Sustainable Resource Management, former dean of the Donald Bren School of Environmental Science and Management at the University of California-Santa Barbara and Co-President of the Club of Rome.

One of the keys to creating greater business value from supply chain sustainability is increasing resource productivity. This emphasis represents a radical change from the usual mindset of business, which has traditionally focused primarily on improving labor productivity. Thanks to technology, these efforts at improving labor output were enormously fruitful: labor productivity has increased twentyfold over the past 200 years.

Today, however, it is not labor that is in short supply but rather basic resources, primarily water and energy. This situation calls for a major shift in thinking: the same level of innovation and effort now needs to go into using technology to improve resource productivity. Companies and nations making scarce resources more productive should enjoy major economic advantages over those that fail to account adequately for the new scarcities.

Investments in resource productivity transform and stimulate the economy in three main ways:

- Investments in resource productivity, such as improving the energy efficiency of buildings, have a higher economic multiplier than general expenditure because resource efficiency investments provide a tangible financial return on investment in addition to providing additional productivity improvements.
- 2. Investments in improving resource efficiency and recycling have a higher economic welfare outcome than general expenditure on many goods and services because they reduce demand for energy, water and virgin resources and thus delay (and even in some cases prevent) the need to spend billions on new energy and water supply infrastructure and new extractive industries.
- 3. Jobs are created locally by green initiatives. This results in more of a city's or town's energy, water and materials investments being spent in a way that supports local jobs and the local economy.

Practically speaking, however, how can companies move forward to drive better resource productivity? Can they do it alone or do they need a broadly accepted business environment? In fact, pioneers can go ahead prudently with little, if any, risk to their economic performance. Philips, for example, has decided to concentrate on LED and Toyota went ahead, together with Honda, to introduce the hybrid car and was successful both domestically and abroad. What is needed is an effective mix of private capital and public management. Markets are superb at steering an efficient allocation of resources and at stimulating innovation, but they do not provide public order and law, moral standards, basic education and infrastructures. Markets are also miserably inefficient, and often even counterproductive, when it comes to protecting the commons and steering innovation toward long-term, sustainable benefits.

Market commodity prices tend to reflect the cost of exploration, extraction, shipping and refining, plus appropriate profits, minus state subsidies. Some speculative elements regarding future scarcity and some cartel benefits can also be included. But there is hardly any account for long-term scarcity and for damage to public goods such as stable climate conditions. Hence it seems justified to think of artificial price signals imposed by public authorities. In theory, one could consider moving commodity prices upwards in proportion with the advance of resource productivity, thus establishing a "ping pong" dynamic similar to the ping pong over 200 years between labor productivity gains and wages/labor costs.

Policies of this kind require a healthy balance between public and private goods, or between the state and the markets.

5. To achieve a leadership position in supply chain sustainability, companies should have strong capabilities in data, process and governance

Analysis of this year's CDP Supply Chain information request reaffirms that integration of data, process and governance is especially important in achieving competitive advantage through supply chain sustainability.

Data

"What gets measured gets managed," runs an old corporate truism. This makes the gathering and analysis of data and information especially critical to improving supply chain sustainability. Although many progressive companies have basic data collection systems in place, these systems are not necessarily helping the supply chain organization to set and improve emission reductions targets. Progressive companies typically use supplier scorecards, requests for proposals (RFPs), requests for information (RFIs) and basic procurement data systems to collect supply chain sustainability information. Advanced companies set emission reductions targets and metrics in absolute or intensity terms, and they monitor those metrics regularly. Some companies also use advanced climate change-related data collection and monitoring platforms like CDP Analytics to analyze and improve their emission reduction performance. Some companies are taking environmental and supply chain stewardship to the next level by implementing information systems across multiple supply chains to drive ambitious initiatives like traceability. For example, Walmart has initiated an ambitious program to track its eggs back through the supply chain to the hen itself. This is designed to result in only problem eggs being quarantined and not entire egg cartons. This improved use of information is expected to not only result in direct savings but also reduce the packaging material waste associated with the cartons and the emissions involved in the entire chain.¹⁸

Collaboration and standardization are increasingly important to reducing the reporting burden on companies. CDP has set the accepted global standard on carbon emissions and water data collection. CDP is working with other organizations such as EcoVadis to encourage the use of CDP data and reduce duplicate requests. One supplier received 28 requests from customers through CDP Supply Chain in 2012. Customer collaboration means they needed to respond only once, rather than to 28 separate and potentially different requests.

Process

The aim of establishing robust processes related to supply chain sustainability is to support long-term improvements and progress. One important objective of developing more effective processes is to embed policies, procedures and codes of conduct into everyday operations. Sustainability within a supply chain is more than just one person's or even one department's responsibility. It should not be something separate from normal processes; it should just be the "way things work." Based on this year's questionnaire responses, there is evidence of several important process innovations being adopted by leading organizations:

Putting in place standard procedures and codes of conduct

Organizations are realizing the need for standard procedures and codes of conduct when it comes to consistent and high-impact supply chain sustainability. In some cases, companies are successfully using processes to become more engaged with suppliers, evaluate performance and even intervene when necessary. One company, in fact, has contractual obligations in place and will go so far as to break relationships with suppliers who violate them. Based on the survey results, 34% of members include contractual obligations and 35% include supplier training beyond CDP's support, to drive better carbon management across their supply chains.

Increasing the quality of communications and reporting

Results from this year's CDP Supply Chain questionnaire clearly highlight the cause-and-effect relationship between communications/reporting and performance. Companies are communicating their environmental sustainability goals and initiatives with a broader group of stakeholders (including suppliers and consumers) to demonstrate their progress. They are also using this communications strategy to drive improvements within the supply chain.

Results indicate that companies with a well-established communications strategy who have been reporting their progress beyond two years, as well as companies that were first-year communicators last year, see significantly improved value realization over the last year by adopting a well-designed communications and reporting strategy (See Figure 12).

18. From CDP member interviews

12 COMPARISON OF YEAR-ON-YEAR VALUE REALIZATION BY FIRST-YEAR AND EXPERIENCED COMMUNICATORS

- 2011
- 2012



Experienced Communicators





N 2011 = 80, N 2012 = 59

The results also reveal that companies communicating beyond the minimum, mandatory reporting requirements show an improving year-on-year performance trend. Such companies say they are twice as likely to invest in emission reductions activities and realize monetary savings.

We are also seeing a positive trend on performance for repeat suppliers; those who reported this year as well as last year; when compared to suppliers who reported only this year (See Figure 13). Thus the CDP Supply Chain Program enables companies to improve their performance on carbon management.

Governance

Better management and coordination of sustainability activities across the organization is important to success. The following are some especially important keys to effective governance:

Encourage and support cross-functional collaboration

To drive greater value for customers, companies are improving collaboration among internal functions, focused on carbon management and sustainability. This year's member survey finds that corporate functions such as Marketing and Legal are now more involved in decision making when it comes to sustainability. Procurement continues to play a central role. Companies should facilitate collaboration between the procurement team and other internal and external stakeholders to achieve sustainabilityoriented process improvements.

19. From CDP Information Request 2012

13 PERFORMANCE COMPARISON OF RESPONDENTS TO CDP INFORMATION REQUEST IN 2011 & 2012

- Reporting in 2011 & 2012, N = 1348
- Reporting in 2012 only, N = 1067



Improving supplier performance at PepsiCo

PepsiCo continues to roll out its Environmental Supplier **Outreach (ESO)** program that started in early 2008 as a pilot with contract manufacturing operations in the United States. In 2011 the program included 50 suppliers representing more than 120 facilities from across all major supplier categories. Under the program, PepsiCo makes available its ReCon (Resource Conservation) program which is leveraged to drive conservation in the company's own operations as well as its supply chain. The tool is applicable to water, energy, greenhouse gas emissions and solid waste, and is available to all PepsiCo food and beverage facilities and strategic suppliers under the ESO program worldwide. Highlights from 2011 for the North American engagement program include 2.5% improvement in thermal energy efficiency, 7% improvement in electrical energy efficiency, and an 18.7% reduction in waste-to-landfill compared to 2010. This corresponds to an estimated productivity of US\$1.7 million in 2011.¹⁹



Engage and manage suppliers

An important development seen in this year's response is that suppliers appear to be more willing to be proactively involved with their customers' sustainability goals, rather than simply focusing on non-compliance. Suppliers are realizing that if they align better with their customers, they can become preferred vendors.

As innovation continues to play an increasingly important role it will be critical to collaborate with suppliers to innovate and explore new opportunities for cradle-tocradle or closed-loop supply chain systems. At the same time, suppliers realize benefits if they are supplying to multiple CDP Supply Chain members (See Figure 14). This underscores the importance of the CDP Supply Chain program and the need for companies with a similar supply base to collaborate when engaging their suppliers.

Establishing and actively managing stakeholder relationships

Awareness by investors of the wider impact of a company's supply chain sustainability on the environment is also important. This awareness can be seen in the opinion expressed in the CDP Carbon Action report 2012, written on behalf of 92 investors representing US\$10 trillion of assets: "We (the investors) believe that the companies in our portfolios with potentially significant carbon emissions in their supply chains should be working with their suppliers to encourage action to deliver cost-effective greenhouse gas emissions reductions in line with emerging best practice."²⁰

 "Carbon reductions generate positive ROI," Carbon Action Report 2012, Carbon Disclosure Project.

14 IMPACT OF NO. OF MEMBERS DRIVING CDP SUPPLY CHAIN RELATIONSHIP WITH SUPPLIERS ON THEIR SUSTAINABILITY PERFORMANCE

	No. of members inviting su to respond to CDP questi				
Performance Parameters	> 3	3	2	1	
% Respondents with climate change strategy integrated with business strategy	93%	86%	72%	57%	
% Respondents with board level responsibility for climate change	79%	57%	44%	26%	
% Respondents reporting physical risks related to climate change	67%	67%	49%	42%	
% Respondents investing in emission reductions initiatives	57%	45%	31%	24%	
% Respondents reporting emissions reductions	54%	41%	34%	25%	
% Respondents reporting monetary savings from emission reductions initiatives	54%	50%	33%	25%	

Conclusion

It is an exciting and a challenging time for supply chain practitioners. Recognition of their function's importance has increased markedly in recent years. The supply chain is playing a more central role in coping with ongoing volatility and looming scarcity risks, while also helping the business as a whole to become more competitive.

Increasing numbers of companies have concerns about risks to their supply chains caused by climate change. Precipitation extremes, major weather events, water shortages and more are causing corporate executives to look to their supply chain function for answers. At the same time, companies are also increasingly aware of how much the supply chain function has to offer in terms of innovations that drive new, low-carbon products, sustainability-related services, better product and packaging design, and other developments that can increase revenues and/or command premium pricing.

The supply chain affects the broad footprint of a company; it has effects on the environment and on the performance of suppliers and other partners in the overall value chain. Supply chain innovators have an enormous opportunity to improve environmental sustainability on a global basis, while also increasing the value of their own companies.

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Carbon Disclosure Project 2013

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