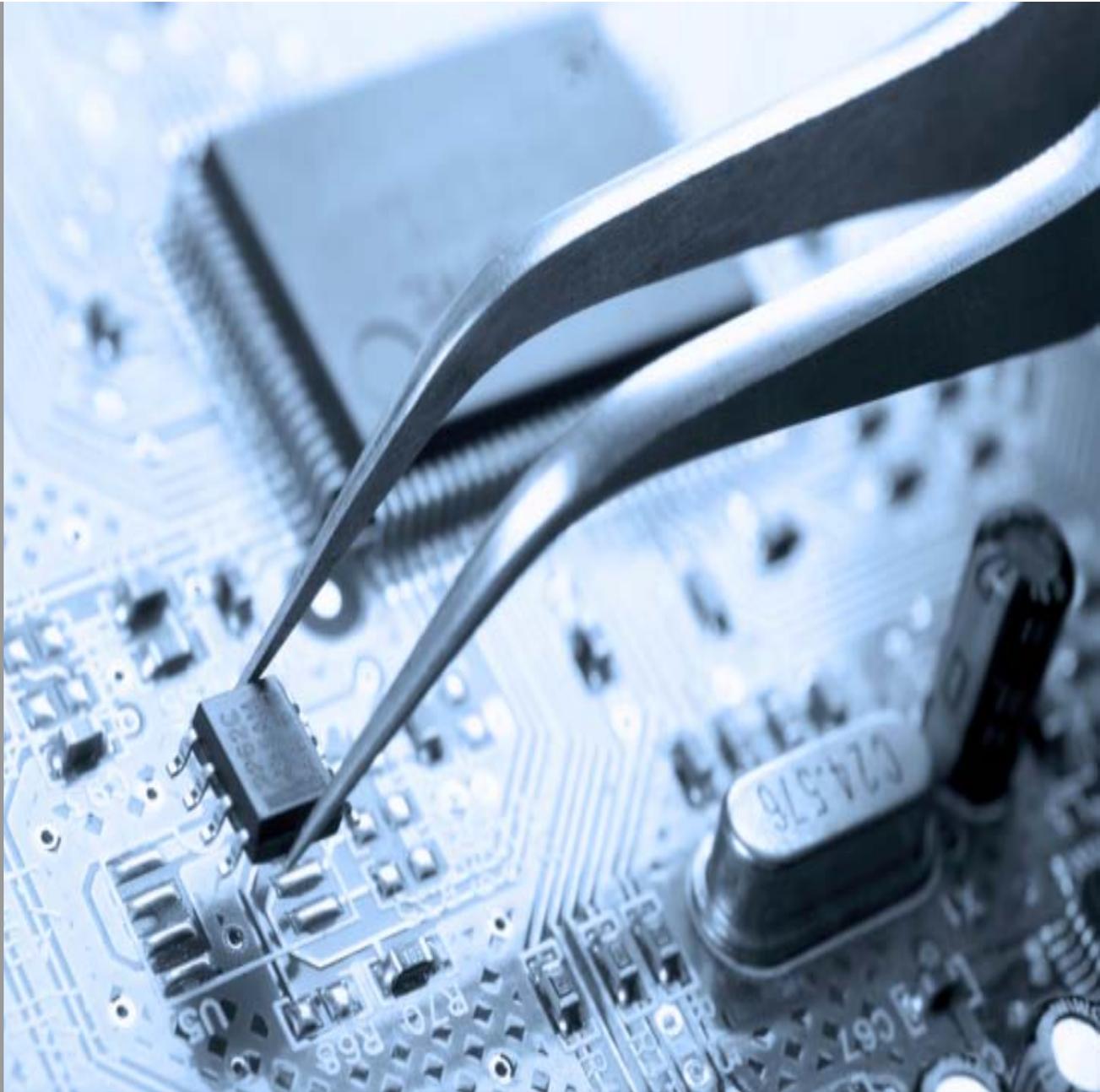


# A Practical Approach to Greening the Electronics Supply Chain

*Results from the 2010 EICC<sup>®</sup> Carbon Reporting System Initiative*



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Carbon Reporting System Initiative*



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## About This Report

Based on the ongoing efforts of the EICC Environmental Sustainability Work Group, the Carbon Reporting System began in 2009 as a pilot initiative and was revised and expanded in 2010 to include a wider range of participants. The 2010 work on this program included reviewing literature on greenhouse gas emissions (GHG) footprinting, developing support resources, training, and tools, and collecting information provided by EICC members and their suppliers.

The EICC would like to recognize the co-leads of the EICC Environmental Sustainability Work Group, Marsha Ali of NVIDIA and Jay Celorie of Hewlett-Packard, for their leadership and guidance throughout the course of this initiative. The author would also like to thank Betsy Fargo, formerly of Business for Social Responsibility (BSR), who played a key leadership role in developing the EICC Carbon Reporting System. Finally, the author would like to acknowledge the EICC Environmental Sustainability Work Group and participating companies for contributing feedback, submitting data, and reviewing this report for accuracy. Any errors or inaccuracies that remain are those of the author alone. Please direct comments or questions to Jesse Nishinaga at [jnishinaga@bsr.org](mailto:jnishinaga@bsr.org), Sasha Radovich at [sradovich@bsr.org](mailto:sradovich@bsr.org), or

Wendy Dittmer at [wdittmer@eicc.info](mailto:wdittmer@eicc.info).

### DISCLAIMER

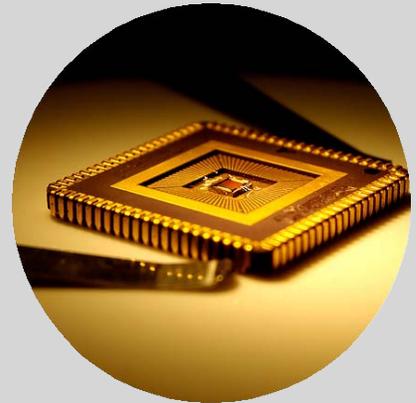
The EICC publishes occasional papers as a contribution to the understanding of the role of business in society and the trends related to corporate responsibility and responsible business practices. The views expressed in this publication are those of the author and do not reflect those of individual EICC members.

### ABOUT THE EICC

The EICC was established in 2004 to improve social, economic, and environmental conditions in the global electronics supply chain through the use of a standardized code of conduct. The EICC was incorporated in 2007 as an association to ensure greater awareness of the EICC Code of Conduct and to expand its adoption across the industry. Through the application of shared standards, the EICC believes in better social, economic, and environmental outcomes for all involved in the electronics supply chain. The EICC includes more than 50 global electronics companies. For more information or to view the EICC Code of Conduct, visit [www.eicc.info](http://www.eicc.info).

## Executive Summary

The role of industry and supply chain networks—the web of business relationships and interdependencies—in addressing carbon emissions has never been more critical.



The information and communication technology (ICT) industry has a powerful role to play in reversing this trend, from substituting high-carbon products and activities with low-carbon alternatives to mitigating carbon emissions by optimizing their own industrial processes. However, regardless of the solution, a key component to achieving reductions is to have a clearer understanding of where the emissions are originating. The Electronic Industry Citizenship Coalition® (EICC®) recognized this need for action and has made the case that supply chain networks—the heart of the electronics industry—can not only play a more direct role in responding to carbon emissions, but also provide critical information and insights that enable other industries and sectors to make similar advances.

In 2009, the EICC developed the Carbon Reporting System ("System"), a straightforward, low-cost, standardized process for directly engaging with suppliers to aggregate their greenhouse gas emissions data into a central repository that their enterprise customers can access. With investors, governments, nongovernmental organizations, and consumers asking companies to measure and publically disclose their greenhouse gas emissions, the

EICC devised the System to meet these expectations, increase transparency, and ultimately strengthen business-to-business collaborations on emissions improvement.

In 2010, the EICC introduced a simplified and streamlined version of the System by building on the successes and lessons learned from the 2009 pilot. The 2010 System continued to increase suppliers' awareness of how to measure greenhouse gas emissions, increase customers' visibility into their suppliers' emissions, and reduce reporting redundancy by letting suppliers share their data with multiple customers simultaneously.

The EICC also made several tactical improvements to the System to better serve both customers and suppliers. As a result, in 2010, 27 EICC companies participated as "customers" in the System, inviting 1,523 suppliers (resulting in 676 unique suppliers) to complete the questionnaire. The System included questions on calendar year 2009 greenhouse gas emissions, electricity purchases (including renewable energy sources), emissions management practices, and water usage.

For instance, to improve participation, suppli-

ers were given the option to provide a copy of their submission to the Carbon Disclosure Project (CDP), an independent nonprofit organization that operates a global carbon disclosure reporting system, or the U.S. EPA Climate Leaders Program in lieu of the EICC questionnaire. The 2010 System also translated many of the tools and guidance documents in Chinese, Spanish, and Japanese to improve participation from non-English-speaking suppliers.

Of those 676 unique suppliers invited, 251 suppliers responded (37 percent), up from 71 suppliers (26 percent) in 2009. An analysis of the responses produced several key takeaways:

- The increase in participation was most notable among suppliers newer to reporting: 89 suppliers tracked and reported their carbon emissions for the first time
- Suppliers shared their data with more customers—in 2010, suppliers on average shared their emissions data with 4.3 customers compared to 3.3 customers in 2009
- The option to provide a copy of the submission to the Carbon Disclosure Project (CDP) increased participation, bringing in an additional 51 suppliers, or 20 percent of total submissions
- The quality of data was still not consistent across all responses, thus making it difficult to aggregate carbon emissions data

Based on these results and the feedback received through a post-questionnaire survey, several recommendations can be made to improve the System:

- Streamline the supplier invitation process to reduce the occurrence of multiple invitations being sent to the same supplier

## Participating Companies

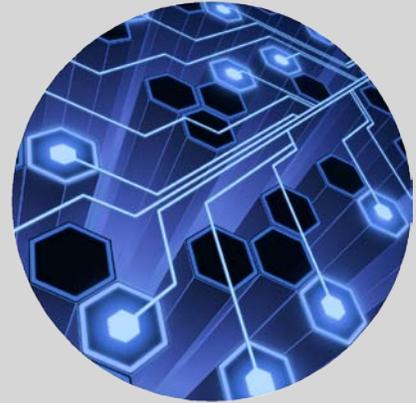
- Acer
- Advanced Micro Devices
- Analog Devices
- Apple
- Applied Materials
- Celestica
- Cisco
- Dell
- Eastman Kodak
- EMC
- Hewlett-Packard
- Hitachi Global Storage Technologies
- IBM
- Intel
- Jabil
- Lenovo
- Lexmark
- Lite-On Technology
- Logitech
- LSI Corporation
- NVIDIA
- ON Semiconductor
- Pegatron
- Philips
- Seagate Technology
- Western Digital
- Xerox

- Provide additional training opportunities for suppliers in multiple languages and time zones
- Increase supplier engagement during the data-collection phase
- Continue to focus on data quality so that results can be aggregated for further data analysis

Increasing the overall value of the System for customers and suppliers remains a priority for the EICC. Thus, as the EICC strives for continuous improvement of the System, new ideas will constantly be explored and changes will be made to improve the value of this critical tool and reporting process.

## Context: Entering a Period of Opportunity

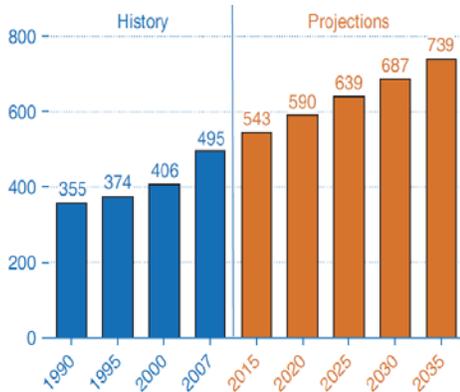
More than 36 months ago, the world entered a recession that has placed further strain on our collective ability to reduce our carbon emissions.



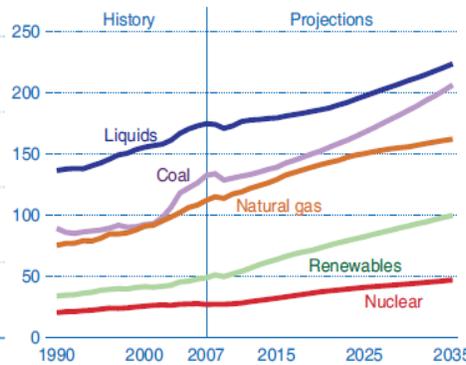
In its 2010 International Energy Outlook, the U.S. Energy Information Administration projected that by 2035, global energy consumption will rise by another 36 percent to approximately 739 quadrillion Btu (Figure 1). Most of this increase in energy consumption will be driven by fossil fuels and regions outside the Organisation for Economic Cooperation and Development (OECD), led by China and India (Figures 2 and 3).

reach 9 billion people by 2050, global energy consumption will continue to rise unless actions are taken today that are based on a sound understanding of the impacts of our individual and collective actions. Ample opportunities exist in all sectors of society to form new systemic approaches, policies, incentives, and technological advances to dramatically alter the way individuals, communities, and societies consume energy.

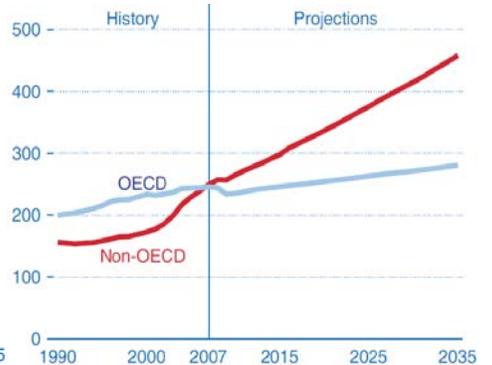
With global population growth expected to



**Figure 1.** World marketed energy consumption (quadrillion Btu)



**Figure 2.** World marketed energy by type (quadrillion Btu)



**Figure 3.** OECD and Non-OECD (quadrillion Btu)

## Carbon Reporting: The New Norm

Understanding our current state of affairs is the first step to reducing carbon emissions. Carbon reporting is the means by which we can individually and collectively take this first step; collecting reliable data will ultimately allow us to implement activities that reduce emissions and enable us to be more energy efficient.

More than ever, investors, governments, non-governmental organizations, and consumers are asking companies to measure and publically disclose their greenhouse gas emissions. Accounting standards and tools, such as those developed by the Greenhouse Gas Protocol, are increasingly being used to help companies understand, quantify, and manage greenhouse gas emissions.<sup>1</sup>

The EICC is not the only member of the business community recognizing the need for action for measuring and managing carbon emissions. Under the United Nations Global Compact, prominent business leaders have challenged the business community to take “practical actions to increase the efficiency of energy usage and to reduce the carbon burden of products, services, and processes, to set voluntary targets for doing so, and to report publicly on the achievement of those targets annually.”<sup>2</sup> The EICC believes that by measuring and managing carbon emissions, the electronics industry and its supply base would respond directly to the challenge of climate change.

One global effort, stemming from a growing



**“A national greenhouse gas registry is a major development in U.S. climate change policy, because it is the cornerstone of cap-and-trade, or indeed, any policy to measure and reduce emissions. Before the government can implement emission reduction policies, they first need to have solid and reliable emissions data. Otherwise, there would be no way to ensure that emissions sources—such as power plants and factories—are achieving reductions.”**

Source: World Resource Institute, 2009

number of investors urging companies to report risks associated with greenhouse gas emissions, has been the Carbon Disclosure Project (CDP). The CDP, an independent non-profit organization that acts on behalf of 534 institutional investors, operates a global carbon disclosure reporting system.

Mandatory GHG reporting and permitting schemes are also proliferating. For example, in 2009, the U.S. Environmental Protection Agency (EPA) launched the Greenhouse Gas Reporting Program to collect emissions data from large sources and suppliers in the United

<sup>1</sup> The Greenhouse Gas Protocol Initiative, [www.ghgprotocol.org](http://www.ghgprotocol.org)

<sup>2</sup> UN Global Compact, “Caring for Climate: The Business Leadership Platform,” 2007

States to inform future policy decisions.<sup>3</sup>

As these examples show, the trend toward voluntary carbon accounting is undeniable and accelerating. Companies that adapt now by integrating and implementing internal policies and procedures that support effective carbon reporting will be better equipped to manage carbon emissions in the future.

## The Role of Supply Chains<sup>4</sup>

The complexity and scale of the global climate change challenge demands a collaborative response. Supply chains are a key focus area for reducing carbon emissions and rising energy demand. A supply-chain-based approach to energy management is critical for several reasons:

First, at an individual company level, a company's total energy usage is more likely to come from its supply chain than from its owned operations. Forty to 60 percent of the total carbon footprint of high-tech companies, makers of consumer goods, and other original equipment manufacturers likely resides in their supply chains. This is especially the case for fabless companies that outsource their manufacturing to other companies.

Second, at an industry level, climate change could change market dynamics. Whatever affects one link in an industry supply chain affects the industry at large. In the ICT sector in particular, the interdependency of companies could not be more evident. It is common

for an ICT company to be a supplier, peer, and customer to another ICT company. Thus, minimizing climate risk for any one company in the industry requires working across a network of relationships.

Third, at a global level, supply chains play a critical role in achieving national and supranational reduction targets. Supply chains cut across national borders. For the top global emitters (such as China and the United States) to reduce emissions, they must look at the issue through the lens of global supply chains and supply-and-demand models. Sourcing decisions and leverage in a supply chain are critical factors for driving practical, large-scale emissions reductions.

Fourth, supply chains are an opportunity to make a practical and tangible impact immediately. Unlike a regulatory approach to climate change, which can take years to put into effect, a supply chain approach can be implemented immediately. By engaging directly with suppliers, companies can gain visibility into energy management practices, increase suppliers' accountability for year-over-year performance, and ultimately drive measurable improvements in energy efficiency. This is a powerful opportunity to stimulate innovation in industry as well as reduce operational and manufacturing costs.

A number of existing initiatives recognize a supply-chain-based response. These initiatives represent a mixture of activities and focus areas, including emissions accounting, goal setting, and reporting on impacts. For a list of some of the most significant initiatives, please view our 2009 report, which can be found at:

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<sup>3</sup> U.S. Environmental Protection Agency, Greenhouse Gas Reporting Program, <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>

<sup>4</sup> This section has been updated from our 2009 report, "A Practical Approach to Greening the Electronics Supply Chain: Results from the 2009 EICC 'Carbon Reporting System' Pilot Initiative"

[http://eicc.info/documents/BSR\\_EICC\\_A\\_Practical\\_Approach\\_to\\_Greening\\_the\\_Electronics\\_Supply\\_Chain.pdf](http://eicc.info/documents/BSR_EICC_A_Practical_Approach_to_Greening_the_Electronics_Supply_Chain.pdf).

## The ICT Industry's Response: A Practical Approach to Carbon Management



The ICT industry has a role to play in helping other industries and sectors to reduce their carbon emissions and become more efficient. This is not only a prime sustainability opportunity for the ICT industry, but it is also a key business opportunity for ICT companies to build innovative products with lower carbon footprints.

As the ICT industry is viewed as a solutions provider, it must also consider its own carbon emissions in order to talk credibly about emissions reductions. In 2007, the “embodied” carbon (*i.e.*, the resulting carbon emissions associated with manufacturing, distribution, and disposal) combined with the footprint from use of ICT products accounted for about 0.83 GtCO<sub>2</sub>e, or 2 percent of the estimated total emissions from human activity released that year; this figure is expected to grow at 6 percent each year until 2020, when it is estimated to reach 1.43 GtCO<sub>2</sub>e.<sup>5</sup> (Figure 4)

Given these estimates, an industry approach to carbon management is a practical step to take to understand more clearly the industry's individual and collective contributions to emissions

<sup>5</sup> The Climate Group, “Smart 2020: Enabling the Low Carbon Economy in the Information Age,” 2008

reductions.

### The EICC Carbon Reporting System<sup>6</sup>

The EICC envisions a world in which standardized emissions data is easily, efficiently, and accurately passed between customers and suppliers up and down the supply chain, increasing transparency of manufacturing electronic products, and spurring business-to-business collaboration on emissions and energy efficiency improvement. Details on the development process and 2009 pilot year results can be found at:

[http://eicc.info/documents/BSR\\_EICC\\_A\\_Practical\\_Approach\\_to\\_Greening\\_the\\_Electronics\\_Supply\\_Chain.pdf](http://eicc.info/documents/BSR_EICC_A_Practical_Approach_to_Greening_the_Electronics_Supply_Chain.pdf).

### Objectives

The EICC set out to design a reporting system that would spur global action by electronics companies on energy measurement and management withinsupply chains. Specifically, the System was designed to:

<sup>6</sup> This section has been updated from our 2009 report, “A Practical Approach to Greening the Electronics Supply Chain: Results from the 2009 EICC ‘Carbon Reporting System’ Pilot Initiative”

- Increase transparency of carbon and energy data in the ICT supply chain by providing a standardized method for sharing data among companies
- Increase data sharing efficiency by eliminating redundant or conflicting requests for carbon and energy data
- Empower companies in the supply chain to measure their energy use.
- Create actionable information by focusing on measurable facility and enterprise data that reveals potential improvement opportunities
- Increase awareness of the opportunities associated with improved carbon and energy management
- Expand data collection to include other such as water use, waste generation, and recycling

These objectives reflect the concept that data gathering and analysis are prerequisites to

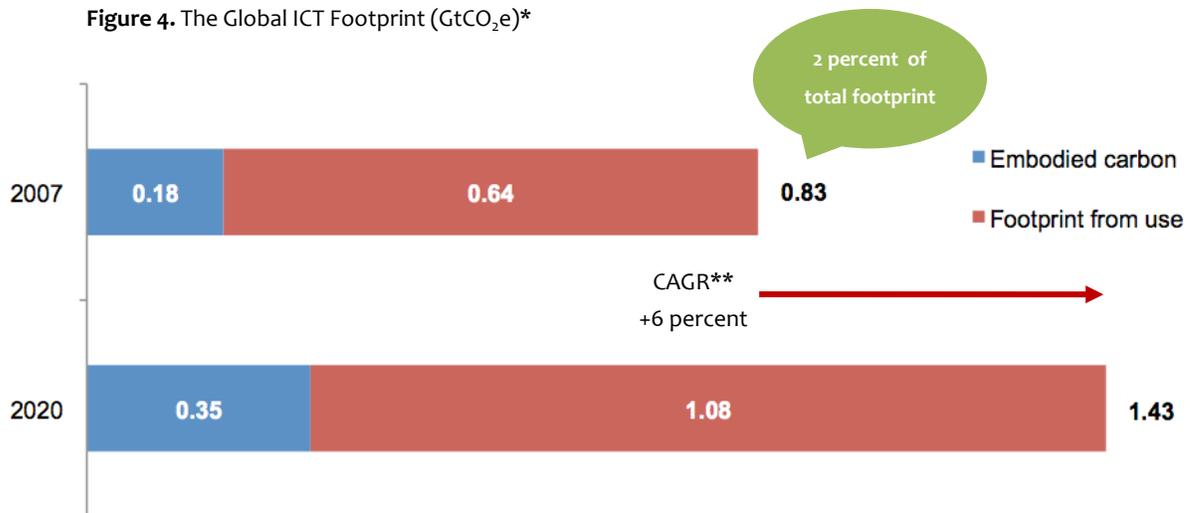
developing an ICT carbon management strategy. Thus, while the System's immediate objectives were to gather data and increase transparency, the EICC ultimately strives to inspire practical improvements and investments in energy efficiency.

### Assumptions

In developing the Carbon Reporting System, the EICC agreed on several common definitions and assumptions.

First and foremost, the EICC recognized "supply chain emissions" as the emissions associated with creating a product, including the emissions associated with product manufacturing, transportation, and storage, but not those associated with product use. To calculate supply chain emissions, each company can ask its direct, or "Tier 1," suppliers to report emissions, and its direct suppliers can ask their direct suppliers to report emissions, and so on

**Figure 4.** The Global ICT Footprint (GtCO<sub>2</sub>e)\*



\*ICT includes PCs, telecoms networks and devices, printers, and data centers

\*\*Compounded annual growth rate

Source: The Climate Group, "Smart 2020: Enabling the Low Carbon Economy in the Information Age," 2008

throughout the supply chain, enabling the EICC to eventually calculate and report on manufacturing emissions across the supply chain on an industry level.

Secondly, the EICC proposes that gathering, analyzing, and acting upon observed Scope 3 emissions data enables improved performance in the supply chain. Due to the complexity of products and supply chains and the diversity of its membership, the EICC favors an approach based on actual fuel and energy consumption data rather than a life cycle analysis (LCA). An approach based on an LCA leverages products or models rather than the supply chain as a whole. LCA-based approaches are useful for identifying major emissions or energy “hot spots” in a product’s life cycle, but improving performance requires observed data at the facility level. In particular, an approach based on gathering observed data provides:

- **Data accuracy.** Data based on actual energy and fuel consumption at a facility level reflects unique operating conditions, including efforts to increase energy efficiency or changes in the energy mix powering a facility. Also, it minimizes the need to use modeled data (which may be cost-prohibitive for some organizations) based on macroeconomic assumptions.
- **Applicability across product lines.** A supplier engagement approach allows a company to identify carbon and energy risks that cut across product lines, as opposed to being product-specific. Since ICT companies can have numerous products and thousands of components, this approach can be more efficient for managing carbon and energy use as well as identifying opportunities to reduce costs.

- **Supplier ownership.** By putting measurement into the hands of the supplier, the system creates incentives for the supplier to become more aware and improve carbon and energy efficiency while reducing operating costs. While skilled experts can use secondary data to model “cradle-to-grave” emissions and identify hot spots, the use of models neither enables nor encourages suppliers to become aware of their emissions, nor does it encourage operational improvements.
- **Propagation.** This method can spread to multiple tiers of suppliers, eliminating the need for subjective boundaries. This can allow for companies to calculate their overall supply chain emissions or product-specific emissions, provided emissions from common suppliers are normalized.

## System Design

Based on the aforementioned objectives, assumptions, and rationales, the EICC designed the system around two key components:

1. **Enterprise Reporting Questionnaire.** A required, standardized questionnaire for reporting relevant emissions and water data.
2. **Emissions Calculator.** An optional, easy-to-use tool for calculating a company’s emissions based on facility-level energy and fuel consumption data. The calculator is consistent with the approach outlined by the Greenhouse Gas Protocol Corporate Accounting Standard.

For both components, the EICC’s top priority was to make it easy for companies to participate and respond. As a result, the EICC intentionally focused the questionnaire on gathering only the most relevant and useful data. The EICC also invested in providing the

best-available emissions factors and unit conversions. This had the added benefit of ensuring that companies new to carbon footprinting were following generally accepted protocols and emissions calculations.

To encourage widespread participation, companies were invited to complete the questionnaire even if they had incomplete or uncertain results, provided that they estimate how complete their data is and how confident

business customers that analyze and use the data to attribute emissions.

In addition, two key changes were made in 2010 to improve participation among suppliers:

1. Suppliers were given the option to provide a copy of their submission to the Carbon Disclosure Project (CDP) or the U.S. EPA Climate Leaders Program in lieu of the EICC questionnaire.
2. The System questionnaire and accompanying guidance documents were provided in Chinese, Spanish, and Japanese.

During the course of the initiative, the EICC provided a series of webinars to help suppliers understand the importance of reporting their data. These webinars also provided suppliers with a tutorial on how to calculate carbon emissions and the opportunity to ask questions about the questionnaire or process. Suppliers were again required to complete a signed terms-and-conditions form to approve release of their results to selected EICC members (data from suppliers that did not return the signed form with their questionnaire were eliminated from the final results).

This annual process was designed to leverage a third party to aggregate supplier lists, detect overlap, and to ensure data privacy. In most cases, the third party asked a supplier once, rather than multiple times, to complete the questionnaire to satisfy its enterprise customers' requests for emissions data. A third party was deemed necessary to protect the commercially sensitive customer-supplier relationships.

### Carbon Reporting System: How It Works



## 2010 Findings and Results



The 2010 Carbon Reporting System built on the successes and lessons learned from the 2009 pilot. While the emissions data were not analyzed at the aggregate level to provide key lessons for the industry (the baseline year for industry-level analysis is set for 2011), the 2010 system yielded significant results and improvements in participation.

Twenty-seven of 43 EICC member companies participated as “customers” in the 2010 Carbon Reporting System, over twice the number of participants from the pilot year.<sup>7</sup> Customers were asked to submit a list of suppliers (up to 100) to query for carbon emissions and water-related data to a third party administrator.

In total, 1,523 suppliers were nominated for inclusion, of which there were 676 unique suppliers after removing duplicate suppliers. Of the 676 unique suppliers queried, 251 returned questionnaires, a 37 percent response rate.

Responses reflected the following key statistics:

- Responding suppliers have been measuring their annual greenhouse gas emissions for an average of 3.1 years and a median of one year; this data includes 89 suppliers measuring and reporting their emissions for the first time using this system and 20 suppliers that have measured their emissions for more than five years
- 98 percent of suppliers included Scope 1, 2, or 3 emissions data; only six respondents did not provide any emissions data at all<sup>8</sup>
- 25 percent of suppliers included emissions data for all three scopes
- 94 percent of companies provided data on electricity use (Scope 2); of those, 7 percent (16 suppliers) reported having purchased electricity from renewable sources, and 6 percent (15 suppliers) reported having generated electricity on-site from renewable sources (e.g., solar)
- 28 percent of suppliers included Scope 3 emissions data
- 98 percent of suppliers answered questions on carbon management; of those, 64

<sup>8</sup> For detailed definitions of Scope 1, 2, and 3, view Chapter 4 of “A Corporate Accounting and Reporting Standard,” The Greenhouse Gas Protocol, Revised Edition, <http://www.ghgprotocol.org/standards/corporate-standard>

<sup>7</sup> EICC membership consisted of 43 companies at the start of the 2010 Carbon Reporting System.

percent (158 suppliers) reported having emissions reduction targets. Targets reflected a mixture of absolute reduction in emissions and reduction of emissions per product unit

### Results: By the Numbers

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27

companies queried their suppliers

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1,523

suppliers were nominated for inclusion

676

were unique companies (removing duplicate submissions)

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251

suppliers submitted a questionnaire (and signed a terms-and-conditions form) to be shared with at least one enterprise customer

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On average, a supplier shared its questionnaire with

4.3

companies

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- Over 66 percent of suppliers disclosed operational information, such as global revenue and number of workers, which can be used to normalize their emissions data
- Of the 77 percent of suppliers that answered questions on water management, 82 percent reported that they track their water consumption and provided data; 47 percent reported to have a water reduction or efficiency goal
- Nineteen percent of suppliers reported that they had obtained third-party verification of their data

The majority of suppliers are located in North America, South East Asia, and East Asia (including China, Japan, Taiwan, and South Korea). See Figure 5 for a breakdown of responses by region.

### Comparisons to Pilot Year

As described earlier, one of the key objectives of the System is to improve transparency and increase data sharing efficiency by eliminating redundant or conflicting requests for carbon and energy data. While it is too early to suggest any broad trends, the 2010 System had greater success in achieving its objectives. For example:

**Customer and supplier participation improved.** From 2009 to 2010, the total number of “customers” increased from 12 to 27 companies, a 125 percent increase. The supplier response rate also improved from 26 percent in 2009 to 37 percent in 2010. In total, 251 suppliers participated in the 2010 System, compared with 73 suppliers in 2009, a 244 percent increase.

**Suppliers shared data with more companies.** On average, a responding supplier in 2010 shared its data with 4.3 companies, up from 3.3 companies in 2009. This improvement provides

some evidence that customers and suppliers are starting to see the benefit of taking a coordinated approach via the System.

**More suppliers reported their carbon data for the first time.** In 2010, 89 suppliers (34 percent of respondents) indicated that their participation in the System was the first time that they had measured their carbon emissions. In 2009, only 21 suppliers were new to carbon footprinting (29 percent of respondents). Additionally, the median number of years of carbon footprinting among responding suppliers decreased from two years in 2009 to one year in 2010, suggesting that the System is meeting one of its primary objectives: expand carbon reporting to suppliers new to the process.

**The option to provide a copy of the CDP submission increased participation.** Twenty per-

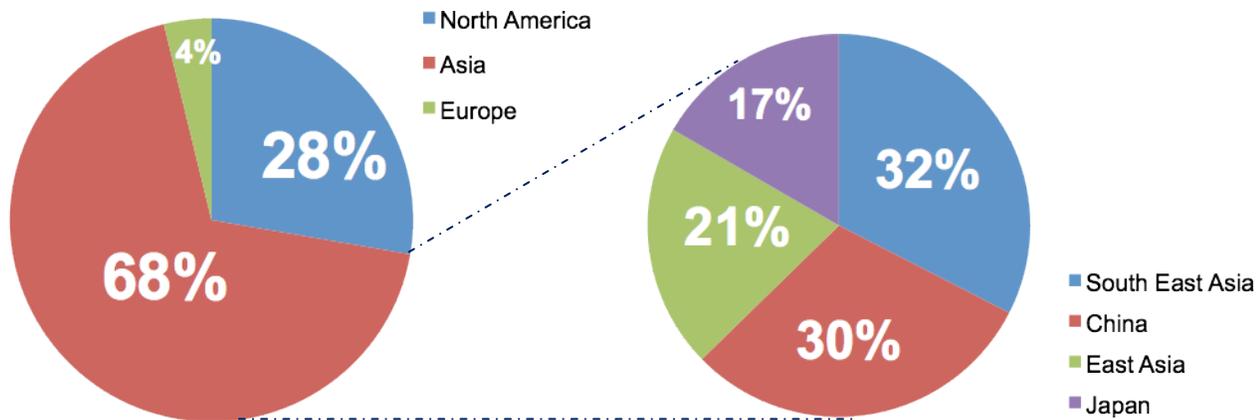
### Results: 2010 vs. 2009

**37%**  
overall response rate in 2010 versus

**26%**  
in 2009

cent of suppliers that submitted a response to the System provided a copy of their CDP questionnaire; the remaining 80 percent, or 200 suppliers, submitted a completed EICC questionnaire. The option to submit a CDP response helped minimize the workload to respond to the EICC questionnaire and reduce redundancy.

Figure 5. Geographical Representation of Responses\*



\* North America includes the United States and Canada only  
 Europe includes the United Kingdom, Ireland, France, and Germany only  
 South East Asia includes Indonesia, Malaysia, the Philippines, Singapore, and Thailand only  
 East Asia includes Taiwan and South Korea only (Japan and China have been separated in second graph)

## Process and Implementation Successes and Challenges

The final analysis of the 2010 System looked at the system design and support. A brief post-questionnaire survey was distributed to all participants and non-participants (676 suppliers), of which 98 suppliers returned a response, a 15 percent response rate. Key observations included:

**Communications, instructions, and tools were clear and manageable.** The majority of respondents said that the email communications, instructions, and guidance on how to use the System and the Excel-based questionnaire tools and calculators were generally clear, manageable, and/or easy to use. The time period to submit data was also sufficient. (Figure 6)

**251**

suppliers participated in 2010 versus

**73**

in 2009

On average, a supplier shared its questionnaire with

**4.3**

companies in 2010 versus

**3.3**

in 2009

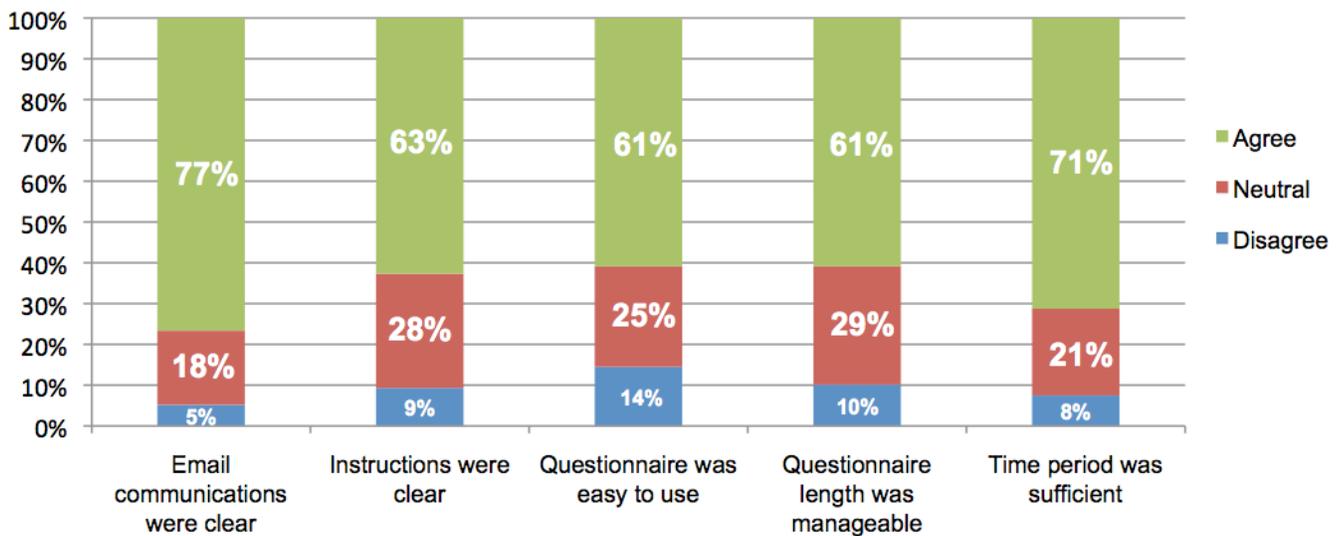


Figure 6. Survey Results on Carbon Reporting System Process

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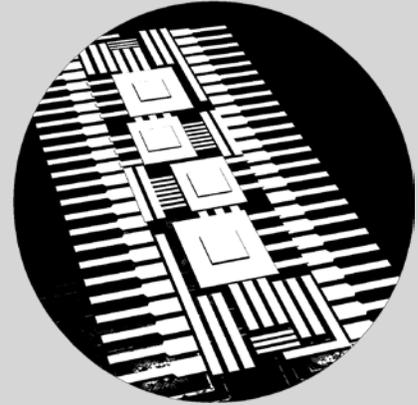
**Multilingual resources were helpful.** Of those who reported using the multilingual resources, nearly 70 percent felt that the translation of tools, resources, and training materials into other languages (Chinese, Spanish, and Japanese) was useful. While day-to-day support provided by the third-party administrator was only available in English, this survey result is overall a positive one. Future editions should consider expanding resources and services to more languages.

**Collecting internal data was difficult.** Nearly half of the survey respondents indicated that one of the key barriers to participating in the System was collecting internal data. This result further supports the notion that gathering emissions data is not an easy task and usually involves more than one person within a company. More training resources and sharing of best practices that specifically address this concern should be provided to suppliers in future editions of the System.

**Additional training still needed.** In 2009, suppliers asked for more training and in 2010, more training was offered. However, 33 percent of survey respondents still cited not having enough help or training from the EICC as a key barrier to participation. For future editions of the System, the quantity, availability, accessibility, and type of training will need to be revisited and retooled as appropriate.

**Many suppliers still received multiple invitations.** Many suppliers, most notably the larger multinational companies, received multiple invitation emails, creating confusion at those companies. The third-party administrator eliminated known duplicate suppliers at the onset of the data collection process, but in some cases, more than one contact name and email was provided for a single supplier. This led to invitations going to multiple individuals within the company. As a result, many suppliers provided feedback that the System's matching and data collaboration process should be improved.

## Next Steps



The 2010 Carbon Reporting System demonstrated the continued need for a simple, low-cost, standardized approach that reduces the likelihood of redundant and conflicting requests for supplier data. The 2010 results also suggest that further efforts to streamline the tool and to provide more training on how to collect the data could result in increased supplier participation. Finally, feedback from suppliers indicated that they are eager to participate if the approach reduces time, money, and resource requirements; thus, more can be done to demonstrate the benefits of the system's approach to carbon footprinting and reporting.

### Opportunities for Companies

The EICC recognized that many barriers still exist to achieving its vision for standardized, efficient reporting of emissions data across the ICT supply chain, and some of these barriers were further illuminated in 2010.

For example, as described earlier, many suppliers are having a difficult time collecting internal data to calculate their carbon footprints and meet the requirements of questionnaires like the System. There is no doubt that collecting primary usage data for carbon footprint

calculations is often a daunting task that requires strong cross-functional coordination throughout a company.

To address this barrier, EICC members should consider sharing their best practices with suppliers on how to build effective cross-functional relationships and internal data collection methodologies.

Another barrier is that many suppliers do not view requests made by third-party administrators as strongly as requests that come directly from their customers. In the 2010 System, from the 27 EICC member companies that participated as customers, those that played a more proactive role in engaging with their suppliers during the data collection phase produced higher supplier participation rates.

Thus, to address this barrier, customers should engage more directly with their suppliers during the data collection phase. From merely providing reminder messages to offering technical support for the System, customers can help elicit better supplier participation.

## Next Steps for the EICC

Learning from the 2010 edition of the System, there are also opportunities for the EICC to streamline the data collection process. Therefore, the EICC will specifically examine the following in 2011 and beyond:

- Streamline the reporting and terms-and-conditions process
  - Streamline the supplier invitation process to reduce the occurrence of multiple invitations being sent to the same supplier
  - Provide additional training and coaching in carbon reporting, energy efficiency, and emissions management (e.g., offer training in additional languages; offer training that is customized to suppliers' existing knowledge or skill-level in carbon footprinting)
  - Start the annual reporting process earlier to provide suppliers more time to respond or provide a longer timeframe to complete the questionnaire process
- Align the EICC's reporting timelines with other recognized disclosure dates
  - Analyze reasons why EICC members did not participate in the System, and identify and implement changes that would improve EICC member (customer) participation
  - Conduct more industry-level analysis of the carbon emissions data and provide key lessons that could inform and potentially guide EICC members and suppliers to make improvements in their own operations to achieve emissions reductions
  - Find opportunities to share best practices across the industry that encourage and enable energy efficiency at different types of facilities-whether manufacturing, design centers, etc.

In conclusion, the EICC is interested in expanding its focus to encourage companies to set their own real emissions reductions and to evaluate related sustainability issues, such as water-scarcity and resource conservation.

## Acronyms and Abbreviations

BTU: British thermal unit (a measure of energy)  
CDP: Carbon Disclosure Project  
EICC: Electronic Industry Citizenship Coalition  
GHG: Greenhouse gas  
ICT: Information and communication technology  
LCA: Lifecycle assessment  
OECD: Organisation for Economic Cooperation and Development  
U.S. EPA: U.S. Environmental Protection Agency

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