

Consumer Finance Group


# Update

Corporate sustainability edition\*

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\*connectedthinking

PRICEWATERHOUSECOOPERS 

# Does your company practice responsible leadership?

Shareholders expect your company to generate profits. But, they also want your company to make a positive contribution to society while minimizing any negative effect it might have on the environment. This approach to business—balancing economic interests against social and environmental concerns—is commonly referred to as sustainability.

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## To our clients and friends:

We recognize today that the pressure on management is severe and that all eyes are focused on current economic conditions. In recent years, we have all reacted to changing rules and regulations, to a dynamic competitive landscape and, most recently, to the credit and housing market dislocations. While some industry participants have invested in developing their sustainability programs, others have not or are just starting to think about the issue. Given today's and future challenges there may never be a perfect time to rank sustainability as the top concern.

Over the course of the last decade, sustainability migrated from the fringe of our lexicon to a central topic in a global debate. The results of PricewaterhouseCoopers' *11th Annual Global CEO Survey*, conducted in the last quarter of 2007, indicate that US CEOs were less engaged on the issue of climate change than other executives around the world. While 72 percent of surveyed CEOs agreed that businesses need to collaborate more effectively with industry peers and business partners in mitigating climate change, just 52 percent of American CEOs felt that way—the lowest of all countries surveyed.

The steady rise in media coverage confirms the reach of this issue, and rising energy and commodity prices will increasingly impact consumer perceptions. As such, it has become more important for US consumer finance organizations to consider sustainable growth as part of the strategic agenda, and to provide consumers, employees and shareholders quantifiable responses to their sustainability concerns.

When we thought about environmental issues in the context of the consumer finance industry for this newsletter, we thought about both the *products* that meet or are sympathetic to customers' environmental concerns, and also the *processes* that consume energy or resources in manufacturing and delivering those products. As you will see from the articles in this newsletter, the issue is already advanced in many countries outside of the US, and it's also clear this is about more than turning out

the lights at close of business. At the same time, sustainability is about a lot more than environmental concerns: it encompasses such issues as how to meet the consumer finance needs of emerging markets and underbanked segments.

We have not debated the merits of the science or facts about global warming. Instead we have assumed a linkage and discussed practical approaches to meeting your customers' growing awareness of the issue.

The year ahead looks demanding, and sustainability will probably take a back seat to basic survival. Nevertheless the issue is not going away and merits increasing attention. With that in mind, PricewaterhouseCoopers' Consumer Finance Group is pleased to provide a newsletter dedicated to the discussion of sustainability and emerging trends for consumer finance companies.

PricewaterhouseCoopers is committed to sustainability and to the concept that sustainability must become a part of every business decision. PricewaterhouseCoopers is equally committed to helping you understand the issues and to helping you work through them. We would be pleased to discuss the contents of this publication and, in whatever ways are helpful, to deliver to you the resources and experience of our firm.



Steve Davies



Chris Statham

Consumer Finance Group  
May 2008

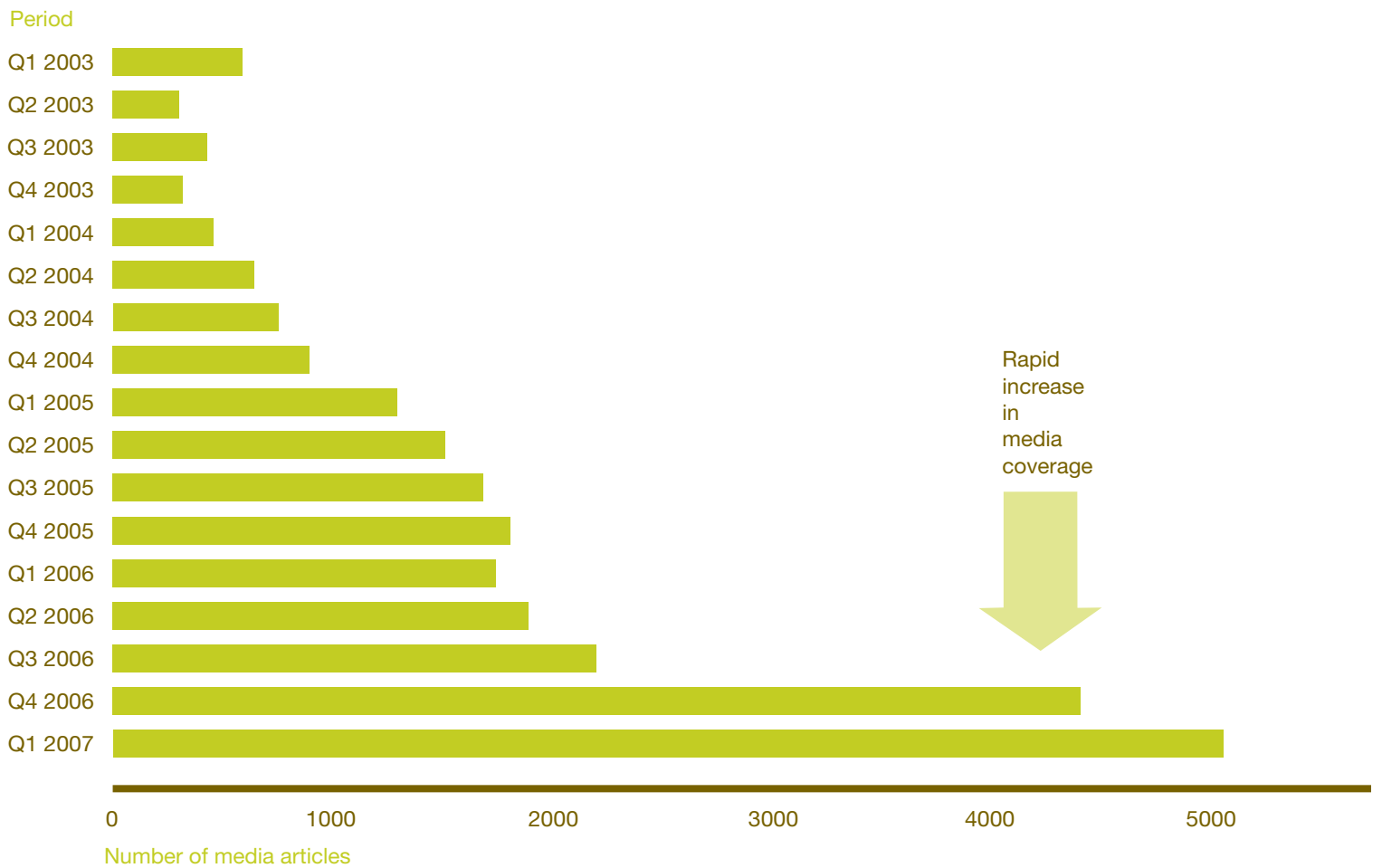
# Global perspectives on the greening of financial services

The launch of GE's Earth Rewards credit card in the US is one of a number of new products developed by financial services companies that seeks to meet consumers' increasing awareness of green issues. We expect to see many more such products in the upcoming months. Global warming and climate change are hot topics in many territories around the world, and they are fast becoming electoral issues in countries such as the US and Australia. As shown in Figure 1, the number of climate-change-related articles published in the UK has increased sharply over recent quarters. It is evident that a tipping point has been reached in terms of awareness of the issues and concern about the impact of those issues and, therefore, the need to take action. Some clients have commented that this is not about whether the science on global warming is true, it is about meeting the challenge of a growing consumer (and future workforce) awareness.

Some social or ethical causes have in the past proven transitory. It would appear that this issue is here to stay. What was once the preserve of eco-warriors has gone mainstream. Many financial services institutions have clear strategic objectives related to protecting the environment and limiting the impact of their business activities on climate change. In fact many of these companies refer to their climate change web pages on their main page. Many company executives share these concerns but also recognize how important it is to drive awareness of the Company's strategy with current and future customers, employees and other stakeholders.

For many organizations, initial programs are focused on the corporation's carbon footprint and achieving carbon neutrality. One of the first large financial services institutions to go carbon neutral was HSBC, which in May 2007 announced a five-year, US\$100 million program which partnered with various NGOs and environmental organizations. Programs, products and initiatives continue to evolve, and banks are increasingly identifying commercial opportunities that support the sustainability agenda, such as micro-finance and green mortgages.

**Figure 1. Number of media articles on climate-change-related topics in the UK, Q1 2003–Q1 2007<sup>1</sup>**



<sup>1</sup> Number of media articles containing one or more of the following phrases in the United Kingdom (source: Factiva): climate change, global warming, greenhouse gas, greenhouse effect or Kyoto protocol. The search covers the first 50 words of all major UK media sources recorded by Factiva.



A number of UK businesses have launched innovative financial products such as green mortgages and car insurance policies that tie rates and premiums to car usage and now see the next area of opportunity in the credit card market. Early adopters of eco-friendly consumer solutions opted for simple ways to help the environment, such as introducing paperless statements and recycling plastic cards. Today, financial institutions are developing more advanced products that include the green factor in the way the product is designed, priced and marketed.

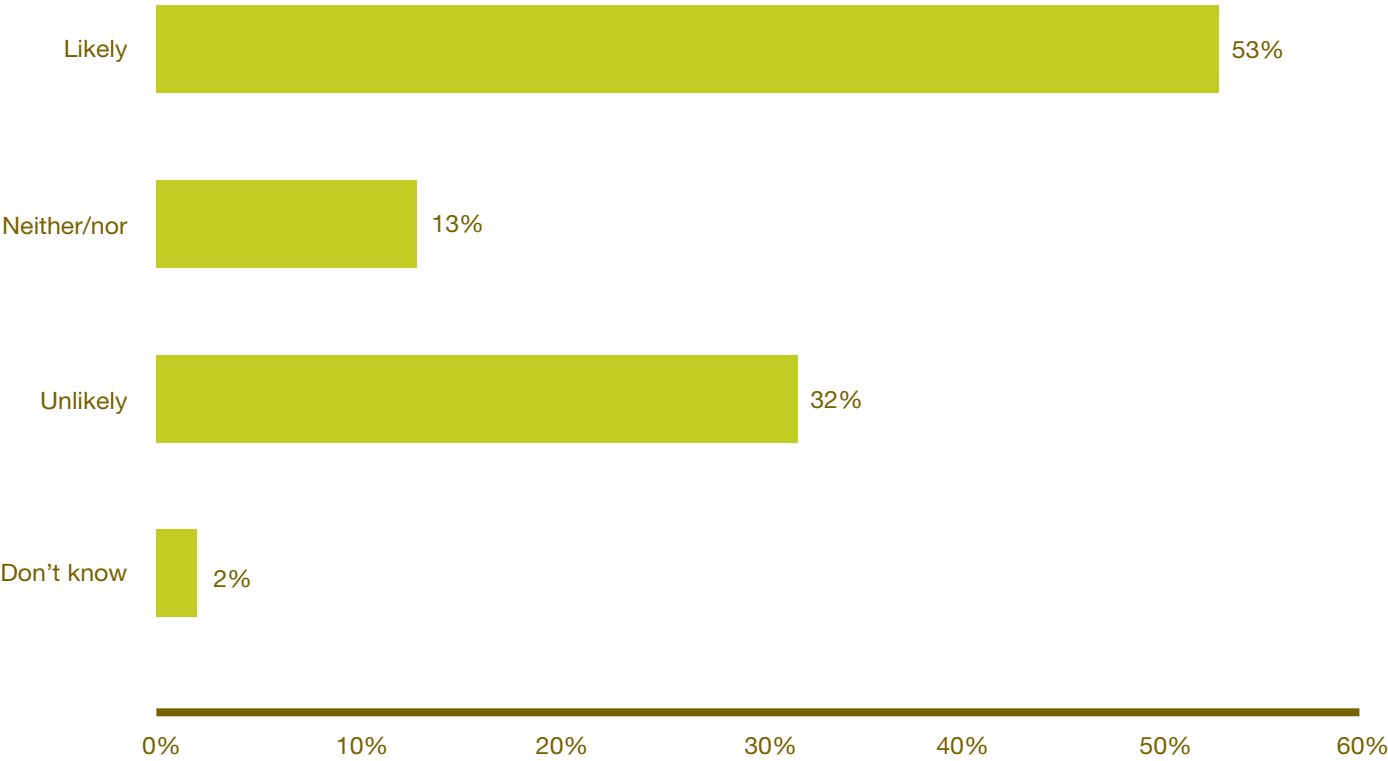
Consumer research by PwC in the UK in May 2007 illustrates the growing appetite for financial products aimed at addressing the climate change issue. For example, when asked whether they would use a credit card that makes their purchases carbon neutral, 53% of PwC's survey respondents said they would be likely to do so (see Figure 2).

Respondents were also asked whether they would convert their existing loyalty or cash-back cards to a carbon-neutral card, and about 40% responded positively.

This suggests that green credit cards have significant potential to displace existing cards. In July 2007, Barclays launched the Breathe credit card in the UK: the company will donate 50% of the card program's profits to environmental projects dedicated to reducing carbon emissions around the world. Barclaycard has committed to donating a minimum of £1 million in the first year of the program.

Other products have already established themselves in the marketplace. For example in the Netherlands, where LaSer (a subsidiary of BNP Paribas), in partnership with Repay, launched the GreenCard in 2004. Through the card, the issuer commits to investing in a compensation fund to directly offset the carbon footprint associated with individual spend on the card. Customers receive monthly information on their carbon footprint and details on how this is offset. Seeing the success of the GreenCard, Rabobank, one of the largest banks in the Netherlands, is in the process of converting its entire card base to the GreenCard concept using the carbon footprint calculation model developed by Repay. Repay is currently rolling out the concept in other major credit card markets.

**Figure 2. If a card supplier was able to offer you a credit card which enabled you to make carbon neutral purchases at a competitive APR and with similar terms to your current credit card, how likely or unlikely would you be to take up the card?**



Source: PwC Independent Research Unit

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An example with a longer track record can be found in the Netherlands, where LaSer (a subsidiary of BNP Paribas), in partnership with Repay, launched the GreenCard in 2004. Through the card, the issuer commits to investing in a compensation fund to directly offset the carbon footprint associated with individual spend on the card. Customers receive monthly information on their carbon footprint and details on how this is offset. Seeing the success of the GreenCard, Rabobank, one of the largest banks in the Netherlands, is in the process of converting its entire card base to the GreenCard concept using the carbon footprint calculation model developed by Repay. Repay is currently rolling out the concept in the major credit card markets.

A winning proposition will be one that promotes real engagement with customers, giving them a sense of personal responsibility toward the environment and empowering them to do something about their impact on the environment. Successful products will inform consumers views on the effect their actions may have on the environment and, at the same time, enable them to “do their bit.” In view of the many differing opinions on how best to offset carbon emissions, the credibility and transparency of such offerings will clearly be vital. This can be expected to lead to the rise of verification programs and independent third party validation of green claims.

While brand image and reputation might have triggered environmental responsibility policies, the phenomenal level of public attention currently focused on global warming is certainly having an impact on the culture and values of financial institutions. Recent recognition of new business opportunities attached to climate-change issues is rapidly increasing interest and investment in this product space.

Whatever the motivation behind the introduction of innovative green solutions, successful products share some common elements: strength of the proposition, connection with customers and credibility. We believe that successful green products have the potential to generate true customer loyalty.

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# Positioning mortgages for the green market

Until recently, many potential borrowers were not aware that green mortgage products were being offered by some of the industry's leading mortgage companies. Green mortgages, also known as energy-efficient mortgages (EEMs), have been on the market for almost three decades. Introduced in the early 1980s by Fannie Mae, EEMs were created to help existing homeowners and prospective homebuyers pay for environmentally friendly home improvements. The slow growth of these mortgage products has historically been attributed to the fact that consumers were not aware of the products or were not concerned about energy-efficiency and the impacts on the environment, or they just preferred more traditional mortgage products because they were easier to understand. However, over the last few years, the green housing market has experienced significant growth, and mortgage lenders will now need to create or modify their green mortgage programs to meet the growing demand.

## Market update

As increasing energy costs place a larger burden on families, energy efficiency becomes a primary concern in the housing industry and fuels the demand for green homes. The National Home Builders Association (NHBA) states that green home starts grew 50% from 61,000 in 2004 to 97,000 in 2006, and according to the US Green Building Council, these numbers will continue to increase.<sup>2</sup> In a recent Residential Green Building Smart Market Report, green home starts are expected to grow from \$7.4 billion (2% of housing starts) in 2006 to \$38 billion (10% of housing starts) in 2010.<sup>3</sup>

Similar to the growth of new green homes, the home remodeling industry experienced a 25% increase in the use of energy-efficient and sustainable products. In 2006, homeowners spent \$230 billion on home remodeling projects, and approximately 40% of those projects used green products and materials.<sup>4</sup> With the tremendous growth recently experienced and the expected future demand for green homes and materials, it is important for mortgage companies and consumer banks to enhance their green mortgage programs.

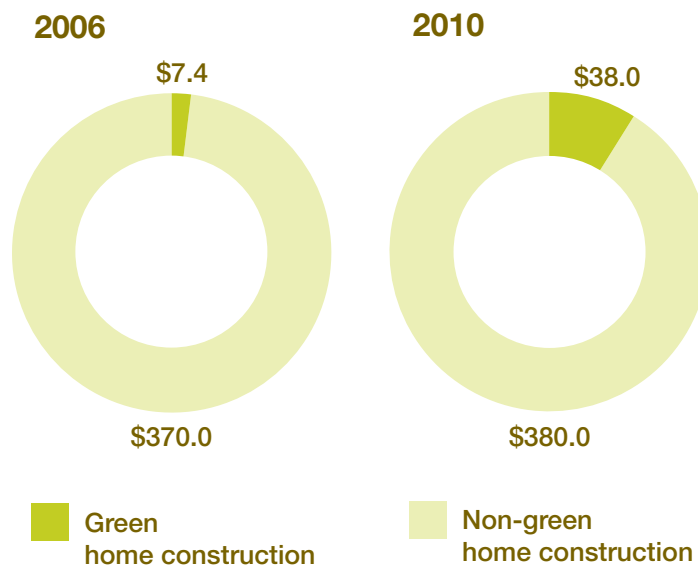
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<sup>2</sup> "Voluntary Programs Certify Nearly 100,000 Green Homes," *National Association of Home Builders*, June 18, 2007

<sup>3</sup> "HBAS Offer New Green Building Course for Growing Market," *National Association of Home Builders*, April 30, 2007

<sup>4</sup> "Green Building the Next Step for Remodeling Industry," *National Association of Home Builders*, April 9, 2007

**Figure 3. US new home market in billions**



### Customer targeting

In today's market, more consumers are taking advantage of green products and materials to lower energy and resource costs, improve their indoor air quality and home comfort, and reduce their individual environmental impacts. To meet the growing demand for these products, mortgage lenders will need to properly understand this growing and increasingly significant segment. In a recent survey by the NAHB, the typical profile of a green home-owner was:

- Affluent and well-educated
- In their mid-40s and married
- More likely to live in the South, Northeast and West due to energy costs<sup>5</sup>

<sup>5</sup> "Green Homeowners Are More Satisfied—And Motivated By Cost," *National Association of Home Builders*, March 26, 2007

Looking ahead and at other markets outside the US, green lending is likely to be a salient factor in choosing a lender for Generation Y customers when they reach this point in the life cycle. However, the above profile is good starting point when thinking about segmentation and product placement. It is more than conceivable that the profile of this segment exhibits characteristics that support further price differentiation.

Mortgage lenders also might want to consider a product-awareness campaign targeted at their own sales force or broker relationships. According to the McGraw-Hill Construction survey, prospective buyers typically learn about green homes by word of mouth or television commercials, not through mortgage lenders or home builders.<sup>6</sup> Mortgage lenders that are willing to help educate their borrowers and discuss the benefits of green products—reduced energy costs; federal income tax credits; higher-quality; economically friendly homes—will position themselves well when this green mortgage segment expands.

### **Opportunities**

With the current challenges in the mortgage market, EEMs offer mortgage lenders a great opportunity to develop a niche segment that shows long term growth and profitability.

Samples of mortgage lenders currently selling green mortgage products suggest the following product features are common:

- A reduced interest rate or \$1,000 rebate at closing
- Higher qualifying ratios and higher allowable mortgage payments up to the amount of monthly energy cost savings due to the customer's increased cash flow with this type of mortgage
- The elimination of an additional down payment for energy-efficient improvements
- Allowing 100% or more financing

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<sup>6</sup> "Green Building to Skyrocket to Half of New Homes," *National Association of Home Builders*, April 2, 2007

A mortgage lender looking to enter the market could modify existing products (for example offer additional incentives such as rebates on energy-efficient appliances), or design new products to meet customer needs. Similar product enhancements and customer benefits could be marketed with second mortgages and home equity lines of credit (HELOCs), since these products are commonly used for home improvements. Lenders can also use their sales networks to market these products to local home builders, realtors and mortgage brokers. Per the McGraw-Hill survey, 92% of home builders are migrating some material and product choices toward green products and more than 85% of home remodelers are using green products and materials in their projects.<sup>7</sup> By reaching out to these companies, mortgage lenders could establish themselves as the green leader within their local markets and position themselves to meet the demands of a growing green customer base.

By implementing a comprehensive green mortgage strategy, mortgage lenders should be able to increase their share of profitable segment with significant growth potential.

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<sup>7</sup> "Green Building the Next Step for Remodeling Industry," *National Association of Home Builders*, April 9, 2007



# Counting carbon: The consumer's carbon footprint

Corporations contribute to global climate change in many ways, these include: carbon emissions resultant from the use of electricity generated by gas and coal-burning power plants, auto and air travel by employees, and gases emitted in manufacturing operations, among many other sources. While new regulations are being debated at the local, state, regional, national and global levels to reduce emissions from these corporate sources, emissions from individuals go relatively unchecked. Individuals contribute to carbon usage in much the same manner as corporations and in a myriad of other ways.

## **The carbon footprint<sup>8</sup>**

The expression used to define how to calculate and measure carbon and greenhouse gas emissions is “carbon footprint.” A carbon footprint is a calculation of carbon dioxide (CO<sub>2</sub>) fossil fuel emissions that a person or organization is responsible for generating (other gases contribute to carbon footprints, but CO<sub>2</sub> is the most common). One's carbon footprint is not only created by the direct consumption of energy, but by indirect energy consumption such as the manufacture, disposal and breakdown of the products one uses. There are many ways to measure the carbon footprint of an individual or company, each with different levels of complexity and accuracy. These range from the use of simplified product multipliers to using complex algorithms and software programs. Regardless of the method used, the goal is the same: to estimate carbon emissions.

## **The carbon footprint: An example of how it is used today**

Currently, there are only a handful of ways institutions use carbon footprint data that impact consumers. Credit cards companies, for example, use various approaches of carbon counting in order to offset their customers' carbon footprint through specific carbon offset programs. Offset programs, in these cases, are often a substitute for rewards programs. The carbon offset programs available to card holders can be as simple as planting trees for a set amount of carbon emissions or more complex investments in energy-efficient technologies and retrofits.

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<sup>8</sup> The World Resources Institute and The World Business Council on Sustainable Development produced guidance on what to include in a carbon footprint (“boundaries”). This guidance is included in the Greenhouse Gas Protocol and is available at <http://www.ghgprotocol.org/standards>.

These programs can be relatively simple and may calculate emissions based on a percentage of dollars spent, or they may use information that is readily available when customers purchase products, namely, the transaction description details carried on credit card networks. This simplicity is attractive to customers; however, there are some obvious shortfalls with this methodology. Because of the approach and, more specifically, the transaction details that are available from credit card transactions, calculators must make broad assumptions pertaining to the carbon impact of each type of transaction.

### **Footprint measurement**

Many groups such as the Environmental Protection Agency (EPA), institutions such as the University of California-Berkeley and corporations such as British Petroleum have developed and published their own carbon calculators. Regardless of the publisher, many of the public calculators have a similar approach and contain similar assumptions. Here is what a typical footprint calculated for an individual would look like:

#### **Transportation—estimate of the carbon dioxide equivalent for automobile and airplane usage**

For automobiles, most calculators use the EPA estimate of 19.4 pounds of CO<sub>2</sub> per gallon of regular unleaded gasoline. Given that the average American drives 12,000 miles per year with an average fuel economy of 21 miles per gallon (mpg), according to Green Progress, the average American emits 11,085 pounds of CO<sub>2</sub> into the atmosphere annually from driving.

Air travel carbon emission is estimated by the World Resources Institute to be between 0.40 pounds (long flights) and 0.53 pounds (short flights) of CO<sub>2</sub> per mile flown. The average American flies around once per year at an average of 1,055 miles per flight, according to the US Department of Transportation, Bureau of Transportation Statistics. At a blended CO<sub>2</sub> factor of 0.465 (average of short and long flights estimate), the average American emits 491 pounds of CO<sub>2</sub> into the atmosphere annually from air travel.

### Energy—estimate of the carbon dioxide equivalent of home energy costs

Electricity usage statistics from the US Energy Information Agency estimate that 1.37 pounds of CO<sub>2</sub> are emitted per kilowatt-hour of electricity. Based on this assumption, the EPA estimates that a typical household emits 16,290 pounds of CO<sub>2</sub> annually, but this will vary by state as the utility generation mix varies (utilities in some states use lower CO<sub>2</sub> emitting hydro-power, while others use higher CO<sub>2</sub> emitting coal-fired plants).

Natural gas usage is estimated at 0.12 pounds of CO<sub>2</sub> emitted per cubic foot of gas. Since a typical household uses approximately 7,680 cubic feet of gas per month, according to the US Energy Information Agency, typical annual CO<sub>2</sub> emissions for a household are approximately 11,000 pounds.

### Other

A multitude of other assumptions can be found from calculator to calculator. They range from estimation of a consumer's decisions to recycle to the number of pounds of CO<sub>2</sub> emitted from eating meat products. Studies can be found on the environmental impact of many of our daily activities however, and for purposes of this simplified calculation, the average American is assumed to emit 38,866 pounds of CO<sub>2</sub>, or 17.6 metric tons, each year.

<b>Total</b>	<b>CO<sub>2</sub> (lbs.)</b>
Automobile	11,085
Air travel	491
Electricity	16,290
Natural gas	11,000
	<b>38,866</b>

Though these calculators do an admirable job of applying reasoned estimates in their calculations, the data needed for more precise consumer level measurements is not currently available given the existing transaction level details when using information from credit card or other similar payment mediums. Although purchase data may become more granular in the future, it is unlikely to happen soon. In addition, these assumptions still utilize averages that cannot take into account such factors as geographical energy price differences and other factors such as the use of gasoline containing ethanol vs. traditional unleaded gasoline. It is important to note, however, that the process of estimating and measuring carbon footprints has improved significantly in the past few years.

### **The future of carbon counting**

Once purchase data improves, companies should have the ability to run process-based life cycle assessment (LCA) software that will help determine a more precise estimate of CO<sub>2</sub> emissions. LCA software allows the carbon footprint of a specific product to be calculated from the carbon emitted during manufacturing, the carbon emitted through its usage and the carbon cost associated with the disposal of the product.

While some LCA software already exists, compiling these models for all products and services would be a massive undertaking, and a cost-benefit analysis may prove prohibitive. Effective LCA analysis for consumer financial services would seem some way off.

With documentaries on global warming, the physical impacts of rising temperatures and green financial products on the rise, understanding a consumer's individual carbon footprint is certain to prove important to product development, design and pricing. It is not unreasonable to assume that with the pace of technological advancements in this field, carbon counting will soon become part of the decision-making process

for consumers. Carbon counting will shape future consumer behavior and it is essential for companies to understand these implications and be able to anticipate customer demand for carbon footprint data.

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# Improving customer acceptance of offset programs

With a shift in focus to more environmentally friendly business practices, banks and other financial institutions are introducing eco-friendly products such as those providing consumers with the option of offsetting their carbon footprint, or their impact of their purchases on the environment. For example, carbon offset credit cards offer cardholders the ability to offset the greenhouse gasses generated by the products and services purchased through gas sequestration, reforestation projects or investments in energy efficiency projects. Customer acceptance of green consumer products depends in large part on the credibility of the program and the ability of the lender to verify the benefits. There has been a lot of debate and skepticism around some carbon offset programs recently. In this article, we suggest three areas for improving customer acceptance of offset programs:

- Independent oversight of the program
- Independent validation and verification
- Transparency of carbon footprint and offsetting results

## **Independent oversight of the program**

A carbon offset program often requires a financial institution to partner with organizations engaging in climate compensation or eco-friendly activities. In addition, tools are needed to estimate the carbon footprint of activities and purchases. Strategically partnering with reputable organizations that engage in climate compensation programs will help to develop and maintain consumer confidence in the mission and objectives of the rewards program. Independent monitoring and oversight of the activities of these organizations can help further strengthen customer acceptance of the offset program.

A carbon offset program will require a funding source and should have an independent board or mechanism for the allocation of offset funds. A group of independent, environmentally active directors can provide the independent guidance and direction needed to help ensure business

partners providing footprint estimates and sequestration activities are performing appropriately, and it will provide customers a high degree of confidence that funds are being allocated according to the mission and objectives of the rewards program.

### **Independent validation and verification**

How can an institution demonstrate the integrity of the carbon offset projects selected? An independent validation and verification (IV&V) process is a preferred approach used by many institutions. The IV&V process should use tools that can both calculate carbon footprints as well as the impact of the different types of carbon offset programs. The IV&V process can also help evaluate the performance of strategic business partners. Successful execution of an IV&V process may require additional business partners with IV&V experience.

The IV&V process should focus on the reasonableness and integrity of the models and assumptions used for estimating individual carbon footprints and the impacts of carbon offsetting activities. Recent empirical research and findings identified by environmental scientists also should be considered. The IV&V process also should identify opportunities for improving the models and assumptions used in carbon offsetting programs. For example, an IV&V process may identify additional purchase data or information that, if provided by a vendor about a category of transactions, could help refine the assumptions or models used for estimating the carbon footprint related to those transactions. The board of directors could then use IV&V feedback to drive improvements in program disclosures.

### **Transparency of carbon footprint and offsetting results**

Clear, consistent and accurate presentation and disclosure of the carbon footprint related to purchases or transactions and the related offsetting reduction/sequestration activities is imperative to the program's success.

This information can be conveyed with a clear and logical statement that describes the following:

- Purchases or transactions made during the period
- Estimated carbon emissions related to each purchase or transaction made
- The basis for each carbon footprint estimate (e.g., for an airline ticket purchase, the basis might include the airline, type of plane, cost and other details used to determine the carbon offset needed)
- Carbon offsetting activities purchased
- Estimated impact of carbon offsetting activities
- The basis for each estimate of carbon offsetting activity

In addition to displaying the purchases, transactions and related carbon footprint offsetting activities in the current billing cycle, year-to-date and program-to-date information also should be displayed to highlight the impact of the program to the consumer.

As offset products are rolled out in the US, more institutions will be competing for the growing market of customers looking for an eco-friendly approach to spending money on daily purchases. Independent oversight of an offset program along with independent verification and validation and transparency of carbon footprint and offsetting activities will help an institution achieve the customer acceptance needed for an offset program to fulfill its environmental mission as well as its business objectives.

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# Greening the nation's bank branches

With climate change emerging as a global environmental, strategic, operational, compliance, financial and political issue, institutions in the retail banking sector don't immediately come to mind as being agents of change, especially when compared with the impact of energy-intensive sectors such as chemicals or heavy manufacturing. However, most industries do play a part, and the carbon footprint emitted from retail bank branches should not be ignored. There are more than 70,000 bank branches throughout the United States, with hundreds more built each year. For example, one large multinational financial institution has more than 8,000 branches and more than 18,000 automated teller machines across the globe. With their geographical reach, purchasing power and exposure to the public, retail bank branch builds have an incredible potential to help push environmentally friendly building design and reduce energy consumption.

While several banks may have experimented with green bank branches in the past few years, the concept is on the cusp of going mainstream. Some of the largest retail banks including Wachovia, PNC Bank, JPMorgan Chase, Bank of America, Wells Fargo and Citigroup, have initiated pilot programs or transitioned to building green bank branches. Several have also retrofitted existing branches with green features. In Europe, the progress has been even more dramatic as evidenced by the green initiatives taken by HSBC, ABN Amro, Barclays and Deutsche Bank, among others.

Operational efficiencies from reduced energy use, satisfying rising stakeholder expectations, protecting brand reputation, acting in an environmentally conscious way and staying ahead of impending regulations have all been referenced as motives for the shift in building design.

## **What makes a bank branch green?**

Green branches are commonly defined as those that are constructed in compliance with the LEED (Leadership in Energy and Environmental

Design) green building rating system established by the United States Green Building Council. The LEED ratings classify buildings as LEED-certified silver, gold or platinum after assessing the building against specific prerequisites in categories such as sustainable sites; water efficiency; energy and atmosphere; materials and resources; and indoor environmental quality. While fees are incurred to administer the LEED certification process, some have chosen to include these features in construction without incurring the cost of certification to keep costs low. Some of the features that might be incorporated at a green bank branch include:

- Environmentally friendly construction materials including recycled or renewable products
- Prefabricated construction components assembled from a more controlled manufacturing facility which reduce on-site construction waste
- Local building materials to minimize energy use and emissions generated from transportation of building materials
- Green electricity (i.e., generated with renewable energy sources fuels including solar photovoltaic, hydro, wind energy and other renewable energy sources)
- Energy-efficient lighting, heating, air conditioning units, office equipment or other appliances that are rated by the US EPA Energy Star program
- Triple-glazed windows that provide stronger insulation
- Water-conserving toilets and faucets to reduce water consumption and energy usage
- Work areas designed to take advantage of daylight
- Use of indigenous plants and landscaping materials that are sustainable without irrigation to reduce water and energy use

- Proximity to public transportation
- Bike racks and preferred parking for low-emission or high-mpg vehicles to minimize energy use and emissions generated from customer and employee transportation

### **The cost of building green branches**

There has been debate over the true cost of building green and whether there is an economic justification for doing so. Early analyses suggest that there may only be a slight increase in the initial build cost for green branches, and payback periods would be relatively short (i.e., within one to three years); however, the exact realization would depend on the specifics of each project. One of the deterrents to a broad roll-out has been the administrative costs necessary to get dozens of buildings certified as green. However, retailers, along with environmental activists, are in the process of piloting a LEED for Retail rating system that recognizes the unique nature of the retail environment and addresses the different types of spaces that retailers need for their distinctive product lines. The LEED Retail rating system would entice fast-expanding retailers to build green by streamlining the application process and reducing the application costs.

Many are surprised to learn that building in an environmentally responsible manner is not prohibitively more expensive than traditional builds. In fact, there may be a stand-alone business case for building in a green manner without even considering the benefits from a social and environmental perspective.

### **The benefits of building green**

To evaluate the benefits of building green, one must look well beyond the economic equation and payback periods—the implications are much broader. However, one must start with the economic equation and note

that the benefit with the least visible impact is the reduction in the carbon footprint generated by the building.

A demonstrated commitment to protecting the environment should build brand equity and, over time, lead to new customers, though customer enticement through these strategies has yet to be proven. Other benefits to building green include an improved customer experience, greater employee productivity as a result of the improved air quality and natural lighting (translating into less sick days), and higher employee satisfaction derived from working for a company that shares a common concern for the environment.

As bank branches continue to spring up in communities across America, an industry shift to green bank branches could help demonstrate that green building practices are the expectation rather than the exception. However, building green bank branches is just one aspect of maintaining an environmentally responsible organization. Consistent application of an environmentally responsible corporate culture will provide opportunities for institutions to distinguish themselves as leaders in addressing the climate change issue.

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## Commercial building: Is the industry doing enough?

Today, about 6% of new commercial buildings incorporate energy efficient and sustainable technologies. While that number is expected to reach 10% by 2010, is enough being done to curb the impact of buildings on the environment? In 2003, the US Department of Energy estimated that buildings accounted for 39% of total US energy consumption and 70% of electricity consumption. US buildings and their inhabitants use in excess of 15 trillion gallons of potable water per year, according to data from the US Geological Service. Buildings and their inhabitants in the US generate 35% of the nation's solid waste along with 36% of the carbon dioxide, 46% of the sulphur oxide and 10% of particle emissions nationwide.<sup>9</sup>

The mission of the United States Green Building Council (USGBC), founded in 1993 by David Gottfried, is to transform the construction industry into an economically viable green market.<sup>10</sup> Given the environmental impact and economic importance of buildings relative to their contribution of carbon emissions vs. other contributors such as the transportation sector, it is only logical to target building construction. To this end, the USGBC developed the LEED (Leadership in Energy and Environmental Design) green building rating system as a voluntary certification. It is the standard benchmarking system for the design, construction and operation of high-performance green buildings.

Registered buildings that meet specific prerequisites are evaluated and receive points for performance in categories such as sustainable sites; water efficiency; energy and atmosphere; materials and resources; and indoor environmental quality. Based on the number of points received, the building is classified as LEED-certified silver, gold or platinum; the higher the number of points, the higher the environmental grade. The environmental and financial benefits ostensibly drive the voluntary certification. Various point scales have been developed for different types of projects. There are LEED certifications for new construction (LEED-NC, released in 2000), commercial interiors (LEED-CI, 2004), existing buildings (LEED-EB, 2004) and core and shell (LEED-CS, 2006), as well as pilot programs for LEED homes and neighborhood development.

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<sup>9</sup> *Green Building Specifics: Costs, Benefits and Case Studies*, Mark D. Wilhelm, April 28, 2005

<sup>10</sup> Source: World Green Building Council

LEED provides guidance and benchmarks to ensure the design, construction and operation of a project are sustainable and have a minimal impact on the environment. Currently, there are LEED projects in all 50 states and 24 different countries. Specifically, there are more than 6,800 commercial projects registered worldwide, and 884 have received certification.<sup>11</sup> These projects will achieve greater efficiency in energy and water consumption, which will positively impact the economics of building owners and tenants alike. Still, people are not convinced that living green can be financially beneficial because of upfront premiums that must be “earned back.”

The Costs and Financial Benefits of Building Green, a comprehensive analysis of 33 LEED projects by Gregory Kats of Capital-E, found that developing a green building is effective from both cost-benefit and environmental standpoints. As LEED planning and building become more commonplace, costs will continue to decline. Sustainable design now adds as little as 2% to project cost, though the average is more likely twice that, in comparison to 20% in years past. Some of the cost savings, such as reduced energy and operating costs, are more easily measured than others, such as productivity savings. For example, an average green building is 28% more energy efficient than a standard building and produces 2% of its energy on-site. At an electricity cost of \$0.08 per kWh, given a 30% energy reduction, it would amount to \$0.30 in savings per square foot per year.<sup>12</sup> Given the size of many projects, these types of savings add up quickly.

As for productivity savings, it is estimated that people spend 90% of their day indoors, where air pollutants are 10 to 100 times higher than outdoors. Improved air quality can reduce costs in sick days, increase productivity and reduce insurance costs. Other productivity gains linked to green buildings and increased natural light are attributed to enhanced emotional functioning, increased creativity and higher task engagement.<sup>13</sup> Studies estimate that productivity gains can be anywhere from 2% to 18%.<sup>14</sup> In one example, Japan’s Toyota Motor Corp. reported a 14%

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11 Source: United States Green Building Council

12 *Green Building Costs and Financial Benefits*, Gregory H. Kats, 2003

13 “Do Green Buildings Enhance the Well Being of Workers?” Judith Heerwagen, *EDC Magazine*, 2001

14 “Going Green in Ways Big and Small,” *Pittsburgh Post-Gazette*, March 25, 2007

drop in absenteeism among its customer-service workers after they were moved into a new green building that featured more extensive sunlight in Torrance, Calif., in 2003.<sup>15</sup> Using an estimate of a 1% increase in productivity from improved worker health, or an extra five minutes a day in productivity, results in productivity increases equating to \$600 to \$700 per employee per year.<sup>16</sup> William McDonough, an architect and advocate of green building, stated: “A 1% increase in productivity can pay for green features. A 10% increase in productivity can pay for the building.”

In New York City, where new buildings are constantly being constructed, there are even greater incentives to build green. For example, tax credits up to \$25 million over nine years are available for green buildings. Additionally, a city law going into effect in 2009 may impact as much as \$12 billion of new construction. It requires private projects that receive in excess of \$10 million in public funds or have half of their budgets funded by public money to build according to green standards.<sup>17</sup>

The Bank of America Tower at One Bryant Park is one example of a current construction project striving for LEED platinum certification. The \$1.2 billion project will be the second largest tower in New York City upon completion. The Durst Organization, its developer, estimates that the environmental features amount to 2% to 3% of the total cost, and should be recovered in two to four years.<sup>18</sup> The bank has estimated that \$3 million will be saved annually through energy efficiency. However, the most significant savings come from productivity. The Durst Organization estimates they can realize 10% to 15% in productivity gains. Nevertheless, a 1% increase among the anticipated 5,000 bank employees amounts to a \$10 million annual gain in productivity.<sup>19</sup> The combined estimated savings make going green a very compelling choice.

Energy savings are generated from the in-house, 5.1-megawatt, clean natural-gas cogeneration power plant, which will supply 70% of the building’s energy. The excess heat that is generated will be used to

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15 “Citigroup Tries Banking on the Natural Kind of Green,” *Wall Street Journal*, September 5, 2007

16 *Green Building Costs and Financial Benefits*, Gregory H. Kats, 2003

17 “How Green Is My Tower?” *New York Times*, April 16, 2006

18 “NYC Tower Is Pinnacle of green,” *ASHRAE Journal*, April 2007

19 “Bank of America’s Bold Statement in Green,” *BusinessWeek*, March 19, 2007

heat the building in the winter and supply a first-of-its-kind water-heat exchanger to make ice that assists the air conditioning system. Furthermore, the air filtration system will remove 95% of particulates in the air, effectively returning the air back outside cleaner than when it entered; energy and potable water consumption are cut by 50% and the list goes on.<sup>20</sup>

LEED does not apply to just commercial buildings; it can pertain to residential buildings as well. The Solaire, in Battery Park City, is a 357,000-square-foot apartment building with 27 stories and 293 units. Completed in 2003 and LEED gold-certified in 2004, the building received two five-year grants totaling \$3.2 million in New York State green building tax credits. The Solaire consumes 35% less energy than similar buildings and consumption during peak demand is reduced by 65%, partially due to solar panels that generate 5% of required energy at peak times.<sup>21</sup> Tenants save 50% to 60% on air conditioning bills because the cooling source is centrally located. Perhaps most interesting to builders and landlords is that the Solaire has achieved rental rates 5% higher than the market average.

Sustainable construction also is steadily gaining recognition in the single-family home sector. About 50 cities now have programs that educate homeowners on ways to outfit a house to be environmentally friendly and energy efficient.<sup>22</sup> Although building a home that meets LEED standards can be costly due to the highly durable materials needed, the benefits could outweigh the costs in the long run. Developed by Pryde and Johnson, a home in Seattle's Ashworth Cottages development is one of few in the nation to achieve LEED platinum certification. The developer has estimated that the home will use as much as 50% less energy than similar sized homes and will reduce net water usage by 40%, but the payback period has not been disclosed.<sup>23</sup>

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20 "The Bank of America Tower at One Bryant Park," *Skyscraper.org* March 15, 2006

21 *Green Value Green Buildings, Growing Assets*, The Royal Institution of Chartered Surveyors, 2005

22 "Ashworth Cottages Greenest Home in Washington State and One of the Few in the Nation to be Awarded LEED® Platinum Certification for Residential Sustainable Design," *prnewswire.com*

23 "Making Your Second Home Green," *New York Times*, February 27, 2007



The examples cited above demonstrate that building green can have benefits that extend well beyond the environment. Why are only 10% of new buildings predicted to incorporate green technologies by 2010? One possible explanation is the perceived cost differential between conventional and green building projects. As discussed above, while the historical cost of incorporating green technologies was high, as the technology has advanced with more and more buildings incorporating such features, the premium to build green has decreased. A knowledge gap also may exist with local developers who do not understand the cost differential or the many benefits of green design and construction.

LEED and other programs will need to continue to encourage sustainable building that emphasizes the reduced costs of building green along with the environmental benefits. Local governments will continue to consider green building mandates or tie government funding to the incorporation of sustainable technologies or green designations, as is being done in New York.

Jason Kliwinski, an architect in Hopewell, New Jersey, who is the director of sustainable design and operations at the Prisco Group, supports mandates. “No one is doing it voluntarily, particularly when there is a perception that it costs more. You need to codify it,”<sup>24</sup> Kliwinski said. Studies have shown that in those areas of the country in which sustainable building is required, the cost of building green has decreased due to increased knowledge in LEED and incorporation of sustainable building principles. Seattle is an example where new buildings have been mandated to achieve a LEED silver rating for the past several years. These buildings originally budgeted a 4% cost increase over non-green standards. Recently, this budgeted premium has declined to approximately 1%.<sup>25</sup>

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24 “Mandating Green,” *newyork.construction.com*

25 “A Vision of Green Building Economics for the Private Sector,” *greenerbuildings.com*, March 1, 2003

The fact that building green helps sustain the environment, saves money in the long run and increases productivity, make green development extremely attractive. While green development is currently governed by a patchwork of local mandates or not at all, it is only a matter of time before new construction will be required to meet higher levels of energy efficiency. As the prevalence of green development grows, it is hoped that the environmental impacts of the buildings and the people who occupy them can be lowered or even eliminated. As the cost of building green decreases and energy prices increase, sustainable construction may become more of an economic decision and less of an environmental one; however, employees, the planet and the bottom line all stand to benefit. According to Craig Zurawski, executive administrator of the Alliance for Sustainable Built Environments, it's "not a matter of if a company should green a building, but when."<sup>26</sup>

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<sup>26</sup> "Green building: A \$12 billion industry in the USA," *climatechangecorp.com*

## Do your vendor partners complement your brand?

There is an opportunity and a risk each time your company hires or renews a contract with a service provider. The opportunity to align your company's brand values with a vendor that shares those values can enhance the customer experience through consistent demonstration of those values. There also is a risk your vendors will not share your brand values and a risk that your vendor may ultimately impact the value of your brand through adverse media attention. Selecting service providers based on their environmental records and policies will become increasingly important in meeting stakeholder expectations. The following excerpts from our environmental vendor management checklist (see Figure 4) could serve as a start of such a selection process.

PwC's environmental vendor management checklist uses responses to these questions and others like it to score vendors and to assist companies in their vendor selection process. If you would like more information on vendor management and what to look for in a potential vendor partner, please contact:

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**Figure 4. PwC’s environmental vendor management checklist (excerpts)**

	Yes	No	N/A
<b>Corporate governance</b>			
1. Does the vendor have a chief environmental or corporate responsibility officer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Does the vendor have an environmental policy or corporate values with respect to the environment? Is the policy publicly disclosed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Does the vendor have a policy for disposing of the obsolete materials similar to your own company (e.g., does the vendor recycle cell phones, computers, paper, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Direct brand impacts</b>			
1. Will partnering with this vendor strengthen your company’s brand with respect to the environment (e.g., does the vendor have an environmental reputation)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is your vendor on a “green vendor” list? (Hint: If you search the web for “green vendors,” some state departments and universities have created lists for green vendors based on their own experiences.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Has your vendor ever received an award for its work with respect to the environment, such as the EPA’s Energy Star rating?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Compliance and regulatory</b>			
1. Have activists ever targeted or listed the vendor on any environmental issues? Does the vendor have a mechanism to monitor and track activist publications?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the vendor required to comply with any environmental regulatory requirements? Has the vendor ever been sanctioned by a regulatory agency for environmental causes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Are the vendor’s buildings LEED certified and what certification level are they ( <a href="http://www.nrdc.org/buildinggreen/leed.asp">http://www.nrdc.org/buildinggreen/leed.asp</a> )?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Vendor capabilities</b>			
1. Can the vendor help you to reduce, eliminate or positively impact your company’s footprint on the environment (e.g., such as providing e-vaults that may assist you in reducing paper consumption)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Does the vendor use alternative fuel sources in the delivery of its products or services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Does the vendor have an established environmental media or crisis management procedure for instances of adversity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## PwC and sustainability services

PricewaterhouseCoopers is widely recognized as a leader in sustainability with a global network of more than 500 practitioners worldwide. The firm has been a member of the United Nations Global Compact (2002), the World Business Council for Sustainable Development (2001), of which our Global CEO, Sam DiPiazza, is an Executive Council member, and the Global Reporting Initiative (1998).

PricewaterhouseCoopers has invested in developing a Center of Excellence for eco-design and environmental impact assessment of products and services. Our Center of Excellence is supported by a number of leading environmental analysis and management software tools. It provides services, methodologies and tools that promote the integration of environmental performance across the varying functions of an organization. PricewaterhouseCoopers has advised government and industry leaders, including a significant number of the Fortune 100 companies, on sustainability. We offer a variety of services for companies interested in sustainability, including:

### **Strategy formulation:**

PricewaterhouseCoopers helps clients analyze markets and policy developments and integrate climate-change challenges and opportunities into their corporate strategies and plans. We advise clients on their corporate, investment and emissions trading strategies, as well as on investor relations and wider stakeholder engagement. We offer expertise in renewable energy and retail carbon, as well as compliance markets and policy. We help with scenario planning, market analysis and commercial, regulatory and environmental strategy development.

### **Carbon finance and transactions:**

PricewaterhouseCoopers works with both buyers and sellers of carbon credits in all the main carbon markets, offering a full range of transaction services. We also help clients to assess the climate-change risks and opportunities in corporate mergers and acquisitions and financing

transactions and to understand the value implications. We help project developers manage the entire emission-reduction project cycle, from asset generation to asset monetization. For buyers, we offer carbon credit due-diligence services, as well as advice on transaction structuring, tax optimization and accounting.

### **Carbon risk management and health check:**

Climate change, emissions trading and other national and international policy responses to the climate-change issue present a whole new set of risks for companies.

We help companies systematically identify and evaluate the risks presented by climate change and emissions trading, and to develop effective risk management measures in the context of an often fluid and uncertain external environment. Our services range from a PwC “Carbon Health Check” (CHC) to more detailed reviews. The CHC consists of a high-level review of 12 focus areas (regulatory, accounting, tax, legal, monitoring, etc.). The aim is to:

- Assess the level of preparation of operations
- Identify strengths, weaknesses, risk and opportunities
- Define corrective actions
- Planning for compliance

### **Greenhouse gases data management and reporting:**

The design and implementation of robust data management systems and quality control over reported information are key challenges for organizations participating in emissions trading schemes or voluntary initiatives to address carbon emissions. We help our clients establish greenhouse gas inventories to meet emerging international best practices, advise them on the design and implementation of data gathering and reporting

systems, and test the adequacy of their controls over the data.

In addition, we provide external assurance of the accuracy and reliability of greenhouse gas data, both within emissions trading regimes and within the context of sustainability reporting.

In addition, we provide external assurance of the accuracy and reliability of greenhouse gas data, both within emissions trading regimes and within the context of sustainability reporting.

**Public policy and delivery:**

We provide evidence-based policy advice to government and public-sector clients on climate change. We advise public-sector clients across national, regional and local governments. Our services include advising on the design of market structures for emissions trading, helping organizations address their own carbon footprints and assessing the socio-economic impact of the physical effects of climate change.

**Specific consumer finance services:**

- Green consumer product development and positioning
- Assistance with structuring and improving acceptance of carbon offset reward programs
- Carbon footprint calculation reviews and validation
- Independent inspection of green reward usage and offset measurement
- Support for economical carbon footprint reductions in bank branches
- Assistance selecting vendors that complement your brand
- Development and execution of the preventative and preparatory steps needed to assuage activism

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# PwC's consumer finance group

The consumer finance group is a US-based business advisory and assurance practice of over 100 professionals across the country fully dedicated to serving clients in the mortgage banking, credit card, home equity, student loan, manufactured housing and other related consumer finance industry sectors. We focus on enhancing the core competencies of these companies such as exceptional customer service, a comprehensive package of service offerings, efficiencies of scale, interest rate risk management, cash management, risk management and controls assessment, effective utilization of technology, accounting and auditing, and asset quality management.

The top industry players view us as a trusted and experienced advisor. Our focus is on the strategic and technical aspects that impact the industry, as well as anticipating industry trends, sharing best practices and benchmarking information, and solving complex business problems.

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