

GOING GREEN, TURNING RED: THE REAL BUSINESS COST OF  
ECO-FRIENDLY DECISIONS

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GOING GREEN, TURNING RED: THE REAL BUSINESS COST OF  
ECO-FRIENDLY DECISIONS

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## **ABSTRACT**

The purpose of this paper is to evaluate and analyze the incremental costs of businesses becoming “green.” It answers the overarching question: are businesses becoming eco-friendly or eco-frenzy? Eco-friendly is defined as companies who strive to be environmentally active for the improvement of the environment and society. Companies who are eco-frenzy become environmentally active for the wrong reasons such as gaining an environmental reputation. With the increase in popularity, and the legal requirement related to environmental sustainability more businesses have incorporated the ideas of corporate social responsibility (CSR) into their strategic positioning. At the start of the 21<sup>st</sup> century a disclosure framework for sustainability was created and the guidelines of Global Reporting Initiative were put into practice. Hence, a new practice of environmental accounting and reporting has been implemented. These reports include the information of costs incurred and benefits and savings realized as a result of implementing the CSR strategy. Canon, IBM, Intel, and Texas Instrument’s 2008-2010 annual environmental reports were used as data for this study. The cost-benefit effects were analyzed and the conclusions drawn. The results reveal that IBM and Canon were eco-frenzy and Intel and Texas Instruments were eco-friendly.

## **CHAPTER ONE: BACKGROUND AND INTRODUCTION**

Companies today are promoting sustainable practices such as recycling paper, reducing their carbon footprint, and giving to charitable causes in order to maintain a social balance for the environment. It is necessary for businesses to engage in such practices, because their competition is also actively participating. Instead of businesses becoming eco-friendly, they might be creating an eco-frenzy. Eco-frenzy occurs when companies strive to be economically sustainable, but are changing not to help the environment, but rather to build their reputation, to be a part of a movement (fad), or simply for underlying benefits such as tax credits. Sustainable practices for businesses have been around since the early 1950s and as time passed it has grown into a “green revolution.”

The 21<sup>st</sup> century created a new accounting practice, which is geared towards helping companies practice and report their costs in a systematic way, in accordance with the environment. Historical data proves, that sustainable accounting has been used for corporate decision making for years, but has gained traction in recent years. Markus Milne (1996, p. 147) states that “sustainability involves maintaining: a sustainable scale of economic activity relative to its ecological life support; a fair distribution of resources and opportunities...[for the] present and future generations; and an efficient allocation of resources.” Sustainability is composed of three different aspects: (a) economical, (b) social, and (c) environmental.

The earliest environmental act was the Clean Air Act of 1956. The act was passed in England. The purpose of this act was to “make provisions for abating the pollution of the air” (Clean Air Act, 1956). This regulation consisted of eliminating black chimney smoke and smoke from various furnaces, if businesses were found not abiding by the act “the occupier of the building shall be guilty of an offense” (Clean Air Act, 1956). The United States (U.S.) was quick to follow the example of this environmental initiative.

In the early 1960s, the U.S. adopted a decision approach that included an environment analysis. Environmental impact analysis, is an analysis that “set[s] out the relevant environmental factors in the form of... descriptive...information expressed in...nonmonetary qualifications” (Milne, 1996, p. 143). This helped management perceive the positive or negative impacts that a project could have on the environment. This was one of the first “cost-benefit analysis attempts to financially quantify (or monetarize) all known impacts” of the environment (Milne, 1996, p.143).

Almost a decade later, the U.S. passed the National Environmental Policy Act of 1969. This act was a “nation[al] policy...to promote efforts which will prevent or eliminate damages to the environment and biosphere and stimulate the health and welfare of man; [and] to enrich the understanding of the ecological systems and natural resources important to the Nation” (The National Environmental, 1969). As soon as the government acknowledged that the Earth’s resources were limited, the passing of environmental legislation exploded. At the beginning of 1970, Congress concluded “that man has caused changes in the environment...[which]...contributes directly to pollution and the degradation of...[the] environment” (Environmental Quality, 1970). The Environmental Quality Improvement Act, (EQIA) was created and implemented within businesses. This

act was used to educate businesses in “prevention, abatement, and control of environmental pollution, water and land resources, transportation, and economic and regional development” (Environmental Quality, 1970). During the 1980s the notion of “sustainable development” become a normal concept for businesses.

The late 20<sup>th</sup> century saw continuous expansion of environmental laws. For example, the Oil Pollution Act of 1990 (OPA) was created to limit the “damages resulting from oil pollution [and] to establish a fund for the payment of... damages” (Oil Pollution Act, 1990). This helped to create a national fund, which provided up to one billion dollars in aid for oil spills. The government found that when oil spills occurred the business responsible could not afford to clean it up in a timely manner. Therefore, this fund served as a loan to companies and would be used for cleaning up the oil spill, this would prove less damaging to the marine life.

The past years have been the building blocks for the current and future legislation. The Environment Protection Agency (EPA) was created during the 1970s. Over time, businesses have improved their “sustainable outcomes...[by] rationing [the] scarce ecosystem capacities, and the presumption...that the ecosystem are the going concerns, not the economic project” (Milne,1996, p. 152).

The statement that “history repeats itself” holds true, in the reality that sustainable practices are not a new phenomenon of the recent centuries. These practices have been around for centuries. Milne (1996) believes that “failing to include environmental impacts, management accounting potentially provides insufficient information to decision-makers to make informed decisions” (p. 136). History confirms his statement because companies have been enacting several environmental friendly projects.

## **Purpose**

Since the 1950s, sustainable practices have been implemented and grown popular in businesses. As the environmental practices and social pressures continue to increase, there is an increase in customer demands for businesses to become “green” and offer products and services, which are environmentally friendly. Management needs to make the strategic decision to become “green.” In addition, there are increasing offers of tax credits as incentive for businesses to adapt these practices. The purpose of this paper is to evaluate and analyze the incremental costs of businesses becoming “green.” **The overarching question underlying this project is: are businesses becoming eco-friendly or is this eco-frenzy?**

## **CHAPTER TWO: REVIEW OF LITERATURE**

The review of literature is divided into four sections. The first section gives an overview of the relationship between Corporate Social Responsibility and sustainability. The second section explains the concept of social accounting and its link to sustainability. The third section explores Environmental Accounting and Reporting (EAR). The final section discusses EAR and cost-benefit analysis.

### **Corporate Social Responsibility and Sustainability**

Over the years the idea that businesses should be responsible for their ethical behavior towards the community has become a standard. With the increased awareness of companies' boards of directors to the concept of social and environmental responsibility, the notion of "Corporate Social Responsibility" (CSR) was established. CSR "is defined as 'the social responsibility of [a] business, [which] encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time'" (Neelankavil, & Anoop, 2009, p. 18). As CSR gained momentum, communities were urged to be more involved with the corporations' visions of environmentally friendly methods of doing business. With society increasing its demand for sustainable practices, CSR "represents the firm's strategic intent with regard to social and environmental initiatives, where such actions exceed what is required by law or regulation" (Porter, 2008, p. 398). The primary goal of CSR "is to communicate the

general management strategy towards sustainability...and business risk factors arising from environmental and social issues” (Joshi, & Krishman, 2010, p.21).

In a recent survey at the UN Global Compact commission, it was concluded that “93 percent of signatory CEOs say that sustainability will be critical to the future success of their business” (Adams, & Petrella, 2010, p. 293). In all companies, the CEOs sets the company culture and direction. Setting the internal environment at the top is crucial and gives direction to top management to lead the company out in accordance with the strategic vision. With an increasing demand, top management began to believe that “sustainability considerations in decision-making... [could] help improve competitiveness and create long-term shareholder value” (Joshi, & Krishman, 2010, p.23). This is a direct result from “shareholders...increasingly pressuring companies to ensure that their investments are morally and ethically justified” (Neelankavil, & Anoop, 2009, p. 18). Shareholders are persons or individuals interested in a company who had sufficient influence in the decision making process. As CEOs make any decisions, they will include the shareholders’ opinions.

Top management continues to lead and direct lower management and so forth down the chain of leadership. CSR is a continual implementation from all levels within an organization. When incorporating sustainability, middle managers are a special key to the implementation. Porter (2008) states that “middle managers are... the linking pins between top down CSR intentions and desired sustainability results” (p. 407). Middle management represents the supervisors above employees and must ensure the strategic vision given from the top is being fulfilled. While the demand for “a more refined measurement, tracking, and accounting of the flow of physical materials, wastes, and

energy, both within and outside” (Joshi, & Krishman, 2010, p.27) business the relationship of CSR and sustainability increases. As CSR flourishes and with the support from the community, corporate CEOs have begun to realize the benefits of documenting and reporting their efforts, cost, and benefits related to the CSR.

### **Social Accounting**

As growing amounts of business are implementing CSR, the traditional way of accounting must also be modified to reflect such social modalities. The theory or conceptual frame of Social Accounting was developed. “‘Social accounting’ refers to organizational information disclosures (financial or nonfinancial) which significantly extend the scope of traditional financial accounting...[such as,] environmental accounting and reporting” (Ball, & Osborne, 2011, p. 1). As the demand for environmental factors to be included in strategic planning grew, so did the demand for accounting techniques, which are beyond the current traditional reporting to include an extensive measurement of the impact of CSR. In essence, social accounting goes beyond economic measures while “including seeking ways to reduce the negative impacts and looking for ways to encourage positive social and environmental effects” (Grey, 2010, p.12).

Anthony Hopwood stated that “accounting, in other words, is part of a wider whole...and to understand...[it] one needs to understand the wider whole and its ties to and implications for accounting” (Hopwood, 2007, p. 1367). Accounting is the language of business. In order to successfully run a business, accountants need to understand the nature of the business as a whole, including the environment. Accounting is structural and precise and adapting to new reporting standards is difficult. Thus he concludes, that

“accounting practice is still trying to grapple with the backlog of pressures on it to change...by the regulatory authorities” (Hopwood, 2007, p. 1369).

The first step in overcoming the pressure is to “overcome our collective and continuing timidity” of accounting and traditional practices (Grey, 2010, p. 15). The link between social accounting and sustainability is that businesses need to move away from traditional practices and venture out of their scope.

### **Environmental Accounting and Reporting**

The pressure has been increasing for accountants to break away from traditional cost accounting reporting. Various contemporary reporting methods such as Lean Manufacturing, the Balanced Scorecard, and other strategic managerial concepts are being used. In the late 1990s, a disclosure framework for sustainable reporting, Environmental Accounting and Reporting (EAR), was created. In 2000, the EAR concept was released to the public for businesses to practice and adopt. While most companies now “report significant amounts of environmental activities on their website and in advertising” there is also a growth in producing “a separate report based on...the guidelines of the Global Reporting Initiative” (Creel, 2010, p. 13). As various sectors within companies began including the environmental reporting as part of their objectives, the stress for accountants increased. Companies are reporting “through the balance scorecard (BSC), which provides a framework for integrating nonfinancial measures into corporate operations and assessments” (Bulter, Henderson, & Raiborn, 2011, p.2). Accountants began to use balance scorecards, in order to achieve this goal and to mitigate the stress caused by these new requirements.

Global Reporting Initiative (GRI) “offers a comprehensive guide to follow for environmental reporting” and is known as “Sustainable Reporting Guidelines...[which] promotes transparency and accountability as an environment reporting policy” (Creel, 2010, p.14). With initiative of the GRI, accountants can move forward with a sense of purpose and direction for their CSR reporting.

### **Cost Benefits of Implementing EAR**

Not only were companies faced with a need to develop reporting to include the environment, but they were also faced with the decision of how to effectively communicate the results in an understandable matter. As a collective amount of businesses are “faced with rising pressures to develop more environmental and social responsibility, companies are developing new communication approaches in conjunction with attempts to incorporate sustainability measures into strategic performance measurements systems” (Gates, & Germain, 2010, p. 1). A traditional approach to managerial accounting is to focus on cost control and variances. Companies want to report the cost as well as the benefits of implementing an EAR strategy. This will outline an understating of the cost as well as the benefits to the company for implementing such new methods of accounting and CSR. According to Sustainability Accounting Systems with a Managerial Decision Focus, managerial accounting is the “improvement of resources use[d, this] not only increases efficiency but is also consistent with sustainability objectives” (Joshi, & Krishman, 2010, p. 25).

There are both advantages and disadvantages to implementing sustainable products in a business and reporting them in EAR. First, “green practices may increase a company’s profitability” second, it may “reduce profitability because of the extra costs

that result[s] from implementation” (Bulter, Henderson, & Raiborn, 2011, p.1). The goal of any company is to maintain shareholder satisfaction. Shareholders play an important role in decision-making. If profits increase due to sustainable practices, then shareholders will be satisfied.

Some of the benefits a business might acquire are a “balance to an organization’s analysis of its overall financial performance,” (Creel, 2010, p.17) additional sales, reputation, and a “better understanding of environmental and social costs” (Joshi, & Krishnan, 2010, p.27). All of these benefits are objectives companies expect to receive by using sustainable reporting. Some of the costs that could be incurred include, “higher margins (or selling price),...increased costs of raw materials,...recycling centers,...natural resource restoration costs,...[and] training costs incurred... [for] employees” (Dutta, & Raef, 2009, p.17).

Framing the “Green” alternative for environmentally conscious consumers agrees that, “if consumers are willing to pay more for green products, and/or to buy from green companies, then it would be economically sensible for companies to internalize the costs” (Mais, & Okada, 2010, p.231). Customers are the gold mines of companies, to be profitable the company needs to lure sales from customers. As stated by Saurav Dutta and Raef Lawson (2009, p.22), “while the latter is cheaper, the former is cleaner,” now it is up to companies to decide which costs they are willing to bear for the benefit they want.

### **Conclusion**

Sustainability has been around since the start of commercial business. From 1956 to 2011 there has been sustainable laws and bills implemented. With the increase of

popularity, more businesses have incorporated sustainability into their Corporate Social Responsibility. The link between social accounting and sustainability is that businesses need to move away from traditional practices and venture out of their scope. At the start of the 21<sup>st</sup> century a disclosure framework for sustainability was created and the guidelines of Global Reporting Initiative were put into practice. For every implementation, there is a cost-benefit that must be taken into consideration.

### **CHAPTER THREE: METHODOLOGY**

The purpose of this study is to understand the impact of eco-friendly, sustainability, and environmental laws on companies' financial reporting and net profits. Social pressures are causing companies to “go green”, to become more environmentally conscious. Nevertheless, companies need to adopt new accounting systems in order to facilitate the accounting and reporting of costs and related data. It is imperative to analyze the environmental reporting concepts.

The process used in this study is twofold. First, a thorough review of the most current literature offered insights into the history, background, and concepts surrounding sustainability, environmental laws, and the reporting that companies are engaging in. Second, a search of the environmental practices of the 100 largest companies, which follow the Global Reporting and Environmental Organization's Guidelines for sustainability, was used as a basis for selecting the companies for this study. These reporting guidelines are the cornerstone of the Global Reporting Initiative (GRI), a network-based organization that produces a comprehensive sustainability framework.

The Sustainability Reporting Framework provides guidance on how organizations can disclose their sustainability performances. It offers guidance on Sustainability Guidelines, Sector Supplements, and Technical Protocol. Any size company can follow this Guideline and it has been used by thousands of organizations throughout the world.

GRI's core goals include the mainstreaming of disclosure on environmental, social and governance performance ([www.globalreporting.org](http://www.globalreporting.org)).

### **Data Collection and Analysis**

An analysis of archival data and corporate annual financial and environmental related reports of four publically traded large companies' environmental reports provided the quantitative data. The companies are: (1) Canon, (2) IBM, (3) Intel, and (4) Texas Instruments.

### **The Companies and Reporting Initiatives**

#### *Canon*

Canon has its heritage in Japan, when in 1933 a few young Japanese had a vision of making the world's best camera. Through hard work and with an enterprising spirit, they eventually succeeded in building a prototype, which was named Kwanon after the Buddhist goddess of mercy. The following year, in 1935, Japan's first-ever 35mm focal-plane-shutter camera, the Hansa Canon, was born, along with the Canon brand ([www.Canon.com/history](http://www.Canon.com/history)). "Since 1988, when Canon introduced its corporate philosophy of Kyosei, or living and working together for the common good, we have placed high importance on and remained active in managing for the environmental protection....until today, the Canon group has reported on its environmental protection activities through a variety of media....we decided to gather all our results, centered on statistics related to our activities, in one publication that will be used annually" (Fujio Mitarai, President and C.E.O., Canon Inc.).

## *IBM*

The earliest roots of IBM can be traced back to a set of events that took place in the 1880-1890 period. First, in 1885, Julius E. Pitrat of Gallipolis, Ohio, secured a patent on an entirely new device which he called a computing scale. That invention became the earliest component of what later became the International Business Machines Corporation. From it, in great part, grew the entire business of what for many years was known as the Dayton Scale Division of IBM. Beginning in 1889, those early innovations and the following developments led to commercial organizations which later evolved into IBM.

IBM has a long history of environmental leadership. “The company established a corporate policy on environmental protection in 1971....IBM’s long-standing recognition of the importance of protecting the environment arises from two key aspects of its business. First is the intersection of the company’s operations with the environment. The second is the enabling aspects of its innovation and technology” (IBM 2006 Annual Report, p. 1) ([www.03.ibm.com/ibm/history/documents/pdf/faq.pdf](http://www.03.ibm.com/ibm/history/documents/pdf/faq.pdf)).

## *Intel*

The history of Intel Corporation dates back to 1968, when Drs. Robert Noyce and Gordon Moore executed a plan to revolutionize the information age using electronic technology. Their company began with a notion to offer integrated electronic technology. Intel produced two of the world’s well known innovations in micro-technology—Large-scale Integrated memory and the microprocessor. In its humble beginnings 1968 Intel had 12 employees and \$2,678 in revenues (<http://www.intel.com/Assets/PDF/General/15yrs.pdf>.)

“At Intel, we don’t separate corporate responsibility from our business. One of the four objectives in our global strategy is, “Care for our people and our planet, and inspire the next generation.” Every person at Intel has a role in achieving this objective, whether they design our products, work in our factories, or interface directly with our customers or suppliers. Our employees’ ongoing focus and achievements create value for Intel and for society” (Paul S. Otellini, President and Chief Executive Officer).

### *Texas Instruments*

Texas Instruments Inc (TI) is an American company with headquarters in Dallas, TX. TI develops and sells semiconductors and computer technology; it is the third largest manufacturer of such semiconductors. It also sells calculators, etc. TI was founded by a group of four people in 1951. One of those individuals was Eugene McDermott, the famed original founder of Geophysical Services in 1930. Today, TI develops analog, digital signal processing, RF and DLP® semiconductor technologies that help customers deliver consumer and industrial electronics products with greater performance, increased power efficiency, higher precision, more mobility and better quality (<http://www.ti.com/corp/docs/aboutti.shtml>).

“Our approach to environmental stewardship is interdisciplinary and comprehensive. We have long aspired to the goal of zero wasted resources,” and this drive for efficiency helps reduce greenhouse gases and other air emissions as well as energy consumption, water use and waste, while increasing resource conservation and efficiency in all aspects of our operations(<http://www.ti.com/corp/docs/aboutti.shtml> ). In 2010, TI established sustainability goals, which included annual environmental goals to reduce resource consumption, waste and emissions. TI sites globally continued to receive awards for

outstanding environmental performance. Among various recognitions in 2010, TI ranked 34th on Newsweek magazine's Green Ranking of America's 500 largest corporations. (<http://www.ti.com/corp/docs/csr/environment/index.shtml>).

### **Data Analysis**

The four annual reports were analyzed using document content analysis (Bowman, 1984; Demunes, 2008) for annual reports. Annual report content analysis is used to explore corporate strategy and elements of risk and returns. "Analyzing the content of annual reports can be a fine source of data on individual firms and also on industries" (Bowman, 1984, p. 61). Corporate Annual Report (CAR) is viewed as a formal public document produced by public companies as a response to mandatory reporting requirements (Stanton, & Stanton, 2002). These CARs can be analyzed using various research perspectives such as content analysis. They are also reviewed or analyzed for various reasons such as risk reporting (Deumes, 2008). Penrose (2008) & Jones (1997) analyzed annual corporate reports for their use of graphics.

The reports were analyzed for data on the companies costs related to corporate sustainability and responsibility (CSR). The paper seeks to report on the total dollar values spent on such initiatives as outlined by the claims made by the four companies above. The assumption is that the companies will outline the total values of revenues spent on CSR and that this may be an indicator of whether or not these companies are focusing on the environment and the common good. However, the assumption is also made that there should be a balance between cost and benefits related to such initiatives, and the company should be able to see and highlight its benefits and to maximize shareholder values. Several ratios were calculated to help make that determination.

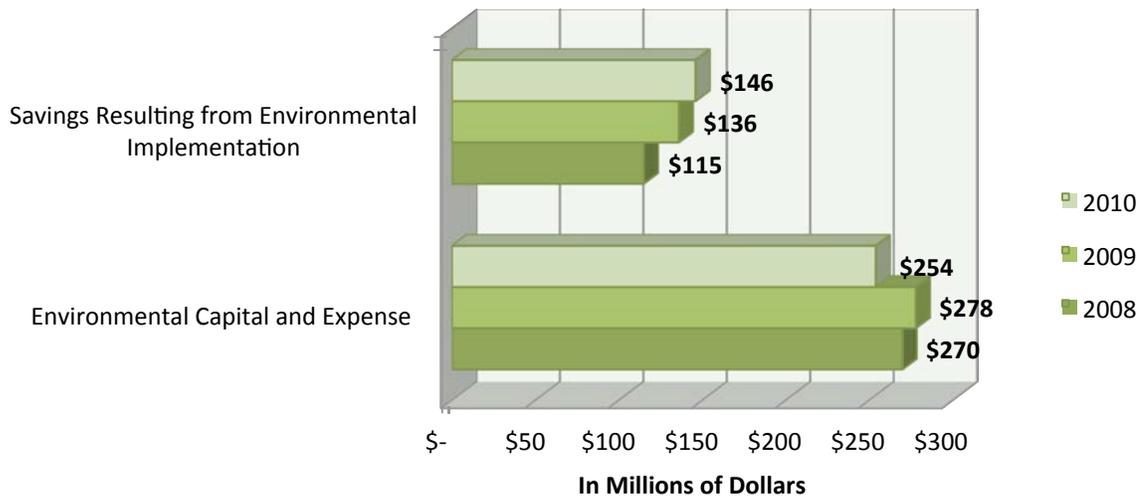
## CHAPTER FOUR: RESULTS

For each of the four companies listed there were charts created that consisted of environmental expenses and savings as a result of implementing environmental and CSR policies as a strategic response to “going green”. Each company had unique costs and savings that relates to the individual industry.

*Canon*

□

### Canon's Environmental Results



Canon has been one of the leaders in moving and becoming an environmentally conscious company. In 1996, Canon challenged itself to be an excellent global corporation by implementing its “Excellent Global Corporate Plan.” In 2009, the company launched “Action for Green” and environmental vision set to start off this final

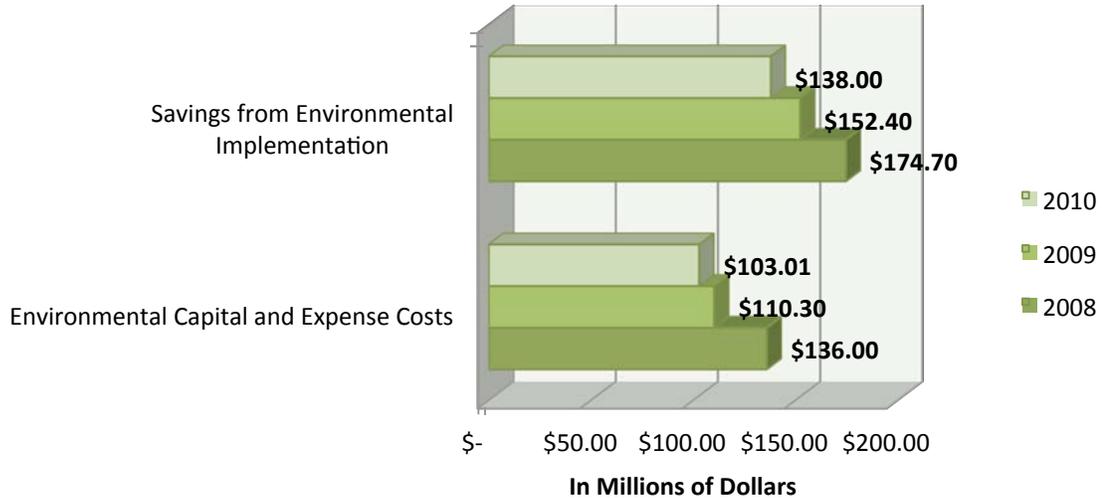
phase. With this plan, Canon has divided its environmental costs into three groups: (1) research and development, (2) production, and sales, and (3) marketing. Since the first environmental reporting in 1999, Canon has been categorizing its savings by recycling savings, energy savings, environmental depositing savings and utility savings. Last year, 2010, marks the third stage of this transformation and to date Canon has earned seven awards and recognition for quality of products and nine awards for product innovation from environmentally initiatives. Canon has continually improved its products so that one of Canon energy saving technology can reduce CO<sub>2</sub> emissions by 8.4 million tons.

In the past three years, Canon's environmental costs have fluctuated from \$270 million in 2008, to \$278 million in 2009, and \$254 million in 2010. Its savings have increased steadily over the three years from \$115 million in 2008, to \$136 million in 2009, and reaching \$146 million in 2010. In comparing the company's savings to its expenditures, the company has successfully implemented a cost-benefit approach. Within 2008 there were 43 percent savings in expenses, 49 percent in 2009, 57 percent in 2010 and. Canon spent a grand total of \$802 million on environmental implementation and realized a saving of \$397 million. This clearly indicates that Canon's cost-benefit is yielding benefits that are worth the costs from a ratio of savings to expenses of .50:1.

This analysis shows that Canon is in fact gaining benefits from implementing sustainable products. Since the start of 1999, Canon has become a faithful company in promoting sustainable practices. Canon has worked hard to build its reputation as an environmentally conscious company. It also has plans to continue with such CSR strategies in the future.

□

## IBM's Environmental Results



IBM's dedication to the environment and to its CSR, is evident in its approach to innovative efforts to protect the environment. IBM's CSR policies are outlined in its annual reports. IBM's programs and policies call for the development and use of products, which are protective of the environment. IBM tracks its environmental spending (capital and expense) related to the operation of its facilities worldwide, as well as *environmental* spending associated with its corporate operations and site remediation efforts. In addition, IBM tracks its savings and cost avoidance as a result of such implementations. These totals savings include such savings from energy, material and water conservations, recycling and packaging improvement initiatives. Savings also include costs that likely would occur in the absence of its environmental management system (IBM Annual report, 2010). Since 2006, IBM has spent \$108 million on capital and \$517.6 million in operating expenses to build maintain, and upgrade the

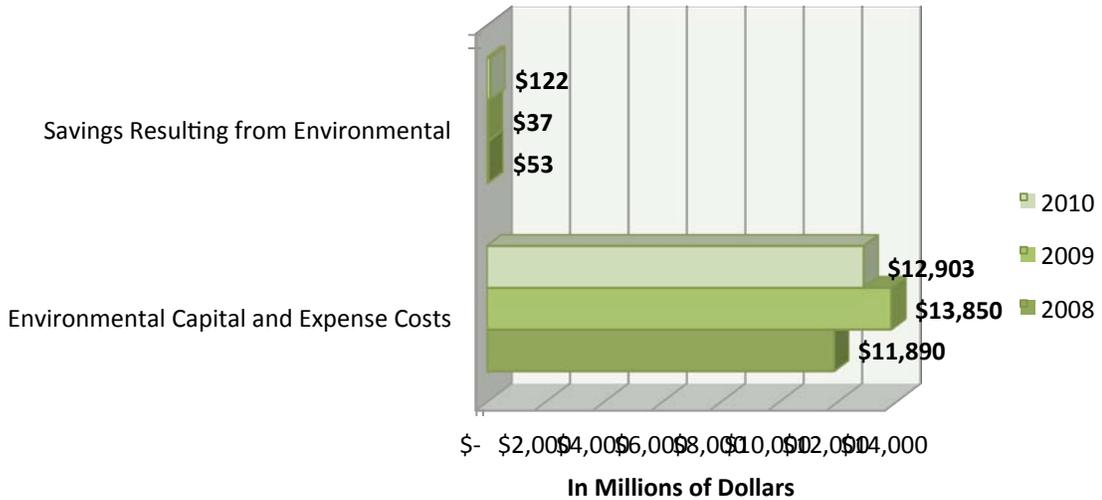
infrastructure for environmental protection at its plants and labs and to manage its environmental programs (IBM Annual Report, 2010).

The results in this study focus on the fiscal years 2008, 2009, and 2010. The above figures outline the comparative years' capital and operational expenditures versus the savings, inclusive of costs avoidance. The capital expenditures in 2008, 2009, and 2010 were \$31.7, \$14.3, and \$12.5 million respectively, a total of \$58.5 million. The operational expenses are \$111.3, \$102.3, and \$90.5 for each of the respective years, for a grand total of \$304.1 million. The total savings from implementing such environmental policies were \$174.7, \$152.4, and \$138, million, in 2010. The grand total savings are \$465.1 Million. As evident from the analysis, the savings or benefits outweigh the costs and expenses for each year as well as for the three years grand total. Further analyses show, that the savings and cost avoidance benefits exceeded the environmental expenses worldwide by a ratio of 1.52 to 1.0.

This analysis has shown that IBM's savings and benefits, as a result of implementing its policies and its focus on pollution prevention and design of its CSR for the environment, consistently exceed the costs and expenses. This demonstrates the value of proactive environmental programs and performance and is evidence of the company's dedication to its CSR and sustainability.

□

## Intel's Environment Results



Intel has taken the initiative to become “the largest voluntary purchase[r] of ‘green’ power in the U.S., according to the U.S. EPA” (Intel Annual Report, 2010). As the growing green trends continue, so do the environmental development and environmental products in Intel. Intel organizes its environmental costs into two main categories and subcategories. The first category is developmental costs, which are made up research and development and capital additions. The second category is project investments, which consist of water treatment plants and other environmental projects. Intel has “invested more than \$100 million in water conservation programs” since the late 1990s (Intel Annual Report, 2010). Savings are measured by the reduced energy costs through projects and savings on chemical waste. Since 2006, Intel has saved two million dollars in chemical costs. Intel has also saved approximately \$150 million in energy costs by using solar energy as an alternative (Intel Annual Report, 2010).

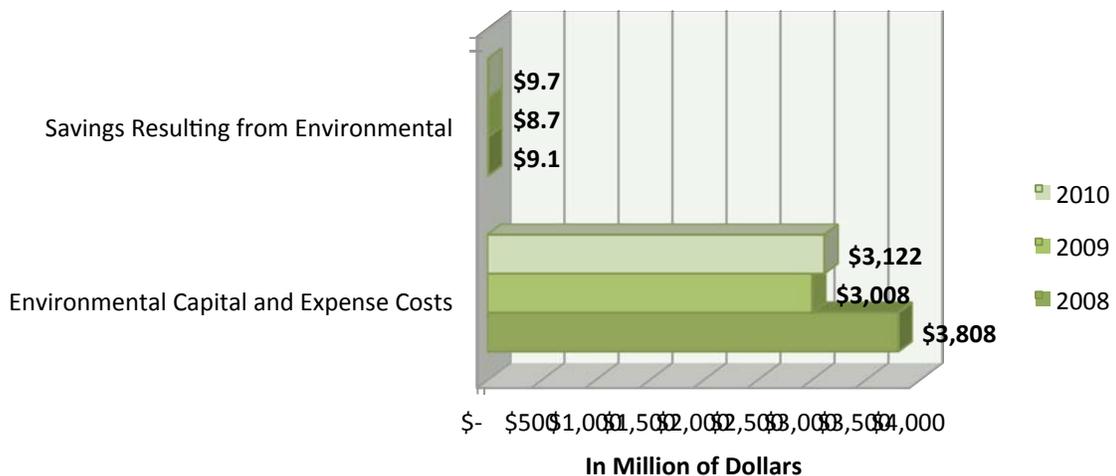
The data focus on the 2008, 2009, and 2010 fiscal years. The analysis shows a comparison between expenses and savings. In 2008, Intel spent \$11.8 million on environmental projects and realized \$53 million in savings. In 2009, Intel spent \$13.8 million, a 14 percent increase from 2008, but only realized \$37 million in savings, a 30 percent decrease. In 2010, Intel had more promising results from environmental implementation. Intel invested \$12.9 million in projects and received \$122 million in savings. The total expenditure for the past three years was \$38.5 million and total savings was \$212 million. This shows that Intel is spending more money in environmental projects than it is receiving. For this company, the cost outweighs the benefits.

Although, Intel has shown interest and taken initiatives to become an environmentally friendly company, the numbers do not reflect a positive result. Intel is incurring more costs than the actual benefits realized. This is an example of a bottom-line going red as a result of implementation.

*Texas Instruments*

□

### Texas Instruments' Environmental Results



TI corporate citizenship is made up of six distinct areas; the second area is ‘environmental responsibility’” (Texas Instruments Annual Report, 2010). TI “works toward[s] sustainability by reducing waste and inefficiency in operations including...This includes manufacturing facilities, office buildings, and distribution activities” (Texas Instruments Annual Report, 2010). TI uses Environmental Safety and Health Policy and Principles Guide to operate sustainably. TI categorizes costs as reducing ozone forming emissions, water conservation, energy reduction, environmental disposal of waste and materials, and LEED building (Leadership in Energy and Environmental Design). TI’s savings include utility savings, energy savings, and water cost savings. In 2005, TI decided to dedicate a pool of capital funding for 100 energy projects which began in 2006. This initiative resulted in \$4-5 million in annual savings.

The cost-benefit analysis for 2008, 2009, and 2010 was exceptional for TI. TI’s expenditures for the three years were \$3.8, \$3, and \$3.1 million, respectively. The results from those investments were as follows \$9.1, \$8.7 and \$9.7, respectively. In 2008, 2009, and 2010 TI savings were 24, 29, and 31 percent of expenditures This is a healthy trend and excellent results. In total TI invested \$9.9 million and received \$27.5 million in saving resulting in a 28 percent overall savings. TI’s savings in its CSR strategies outweigh the cost of its investments.

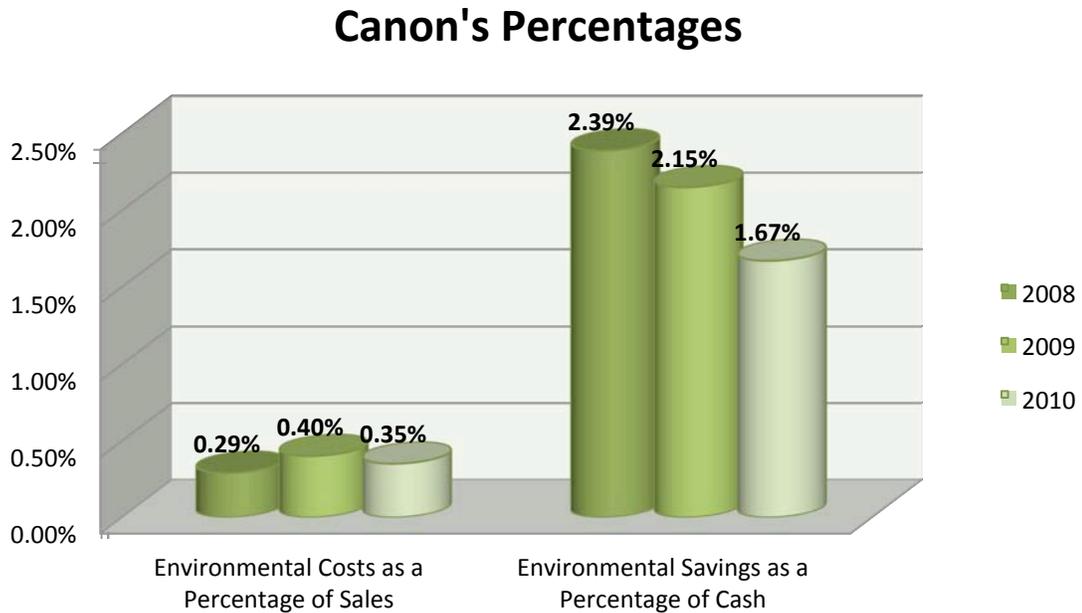
### **Discussion**

The following discussions are based on two ratios. The first ratio is ‘environmental costs as a percentage of sales,’ which compares the cost each company spent as a result of implementing environmental practices compared to the sales incurred

that particular year. The second ratio is 'environmental savings as a percentage of cash.' This ratio compares the environmental savings as a percentage of the total cash available for each company environmental implementation. This shows the percentage each company is saving compared to the total cash allocated for expenditures. This simply demonstrates how management is choosing to spend its resources.

*Canon*

□



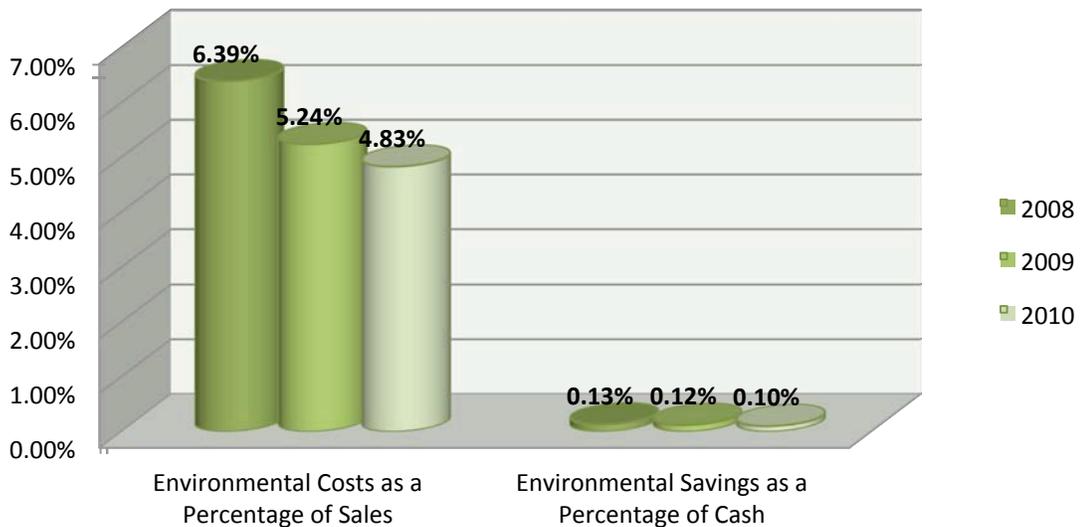
As indicated from the results, Canon's savings are only half of the costs consumed. When converted to percentage of sales, Canon is spending less than one percent for the past three years. This indicates that Canon is effectively using its expenditures. When the company's savings are converted to percentages of the cash available for implementation, it is evident that the company is not receiving benefit. During 2008 to 2010, Canon has not received an advantage. The maximum percentage

starting in 2008, was 2.39 percent and it has slowly been decreasing. At less than three percent in the past three years, Canon is not exercising a proper cost-benefit relationship.

*IBM*

□

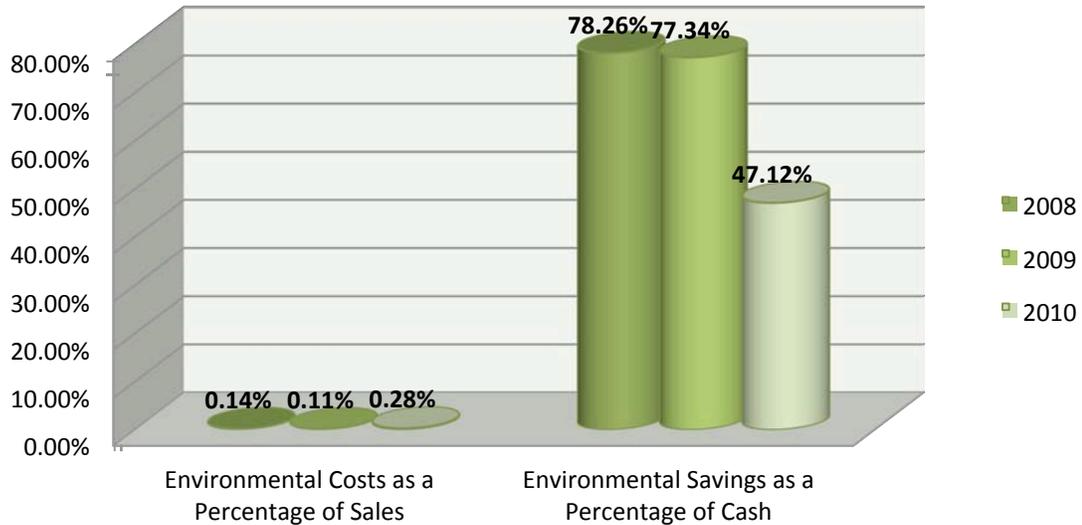
### IBM's Percentages



The raw data from the results discussed above demonstrates that IBM's savings surpass the costs incurred. While this may seem to be healthy for the company, the percentages indicate a different analysis. When converting the costs into a percentage of sales the results are surprising. The percentages for 2008 to 2010 were high and the company is using more of its revenue to implement environmental projects. This would not be surprising if the savings as a percentage of cash were equal or greater. This analysis illustrates that IBM's savings as a percentage of cash are less than .20 percent for the three years. IBM is not only investing a high percentage of sales, but is also receiving less than one percent of savings compared to cash. This is another example of a cost-benefit relationship that is not effective.

□

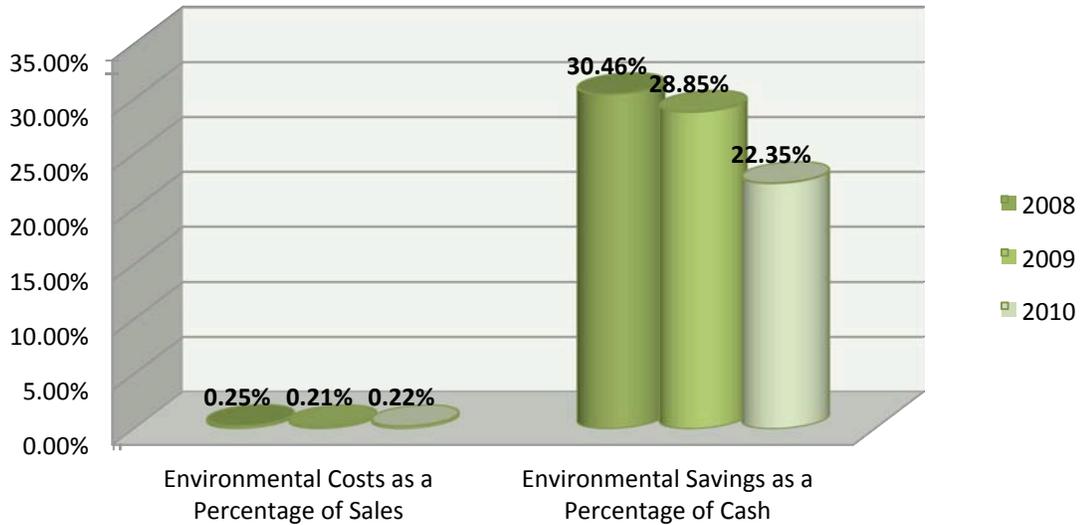
## Intel's Percentages



While Intel's environmental results are remarkable, because its costs surpass the savings the ratios symbolize a healthy trend. When Intel's costs are converted as a percent of sales the results are surprising. In 2008, the company only spent .14 percent of sales, 2009 was .11 percent and in 2010 the percentage was .28 percent. This is exceptional because the raw data showed that costs surpassed savings, but in the analysis the costs are less than one percent. The company's savings as percent of cash are extraordinary. The savings discussed above indicated that the company was successfully receiving benefits. This ratio shows the opposite. In 2008, Intel was saving about 78 percent of its cash available. In 2009, roughly the same percentage held true and Intel was continuing to save more than 70 percent of its cash. Even though there was a dip in 2010, Intel is still saving at a healthy rate. This is an example of a positive cost-benefit relationship.

□

### Texas Instruments' Percentages



At first glance in the section discussed above Texas Instruments' (TI) raw data should be daunting but TI has only been reporting a Corporate Social Responsibility report since 2006. TI is still fairly new in reporting and though the numbers maybe seem high the company is in a healthy position. When analyzing the costs as a percentage of sales TI is showing an affirmative relationship. The company is using less than .30 percent of its sales to implement sustainable projects. A positive relationship can also be said for TI's savings as a percentage of cash. Though it has been decreasing slowly in the past three years, TI is retaining a positive saving trend.

## CHAPTER FIVE: CONCLUSION

Sustainability is a big part of today's corporate strategy and many are taking the initiative to be environmentally safe. Even if businesses do not agree, it is necessary for businesses to engage in such practices, because their competition is also actively participating. Why these initiatives are great for business, one wonders if businesses are becoming eco-friendly or if they are creating an eco-frenzy. Eco-frenzy occurs when companies strive to be economically sustainable, but are changing not to help the environment, but rather to build their reputation, to be a part of a movement (fad), or simply for underlying benefits such as tax credits. As the environmental practices and social pressures continue there is also an increase in customer demands for businesses to become "green" and to offer products and services, which are environmentally friendly. Accordingly, management needs to make the strategic decision to become "green." The underlying question in this study was: **Are businesses becoming eco-friendly or is this eco-frenzy?**

The review of literature revealed four components, which are valuable in evaluating the overarching question in this study. The first component is corporate social responsibility. Corporate social responsibility is defined as individual communities' economic, legal, and ethical expectations of businesses. The goal is to improve the communication link between the community and environmental implementations. The second component is social accounting. Social accounting goes beyond traditional

accounting and includes nonfinancial elements, such as environmental results. The link between social accounting and sustainability is that businesses have moved away from traditional practices and have adopted additional reporting strategies, which captures their policies and costs-benefit effects of their CSR.

The third component is environmental accounting and reporting. In the late 1990s a disclosure framework for sustainable reporting, Environmental Accounting and Reporting (EAR), was created. In the year 2000, the EAR concept was released to the public for businesses to practice and adopt. These guidelines are used by companies to form a standard environmental reporting publication. The fourth component is the cost-benefit of implementing environmental accounting and reporting. Companies report the cost as well as the benefits of implementing an EAR strategy. This outlines an understating of the cost as well as the benefits to the company for implementing such new environmental and CSR strategies. There are both advantages and disadvantages, companies need to understand both and weigh the options as they are implementing and planning environmentally save initiatives.

The four companies selected for this study were Canon, IBM, Intel, and Texas Instruments. The reports were analyzed for data on the companies' costs and benefits or savings related to corporate sustainability and responsibility (CSR). After an extensive analysis using the four components discussed in the review of literature the results show that each of the companies had variety of capital expenditure, operating costs, and savings related to its environmental policies and implementation of sustainable initiatives. This study shows that Canon and IBM are eco-frenzy and Texas Instruments and Intel are eco-friendly.

This was concluded because both the eco-friendly companies' ratios were savings a tremendous amount of dollars than they were investing. This indicates that these companies are receiving a benefit while helping the environment and society. Cannon and IBM are examples of businesses not receiving a financial benefit and or savings as a result of implementing CSR and environmental strategies. However, they are receiving a reputation as an environmentally friendly and sustainable business. Their ratios show that there is not a positive cost-benefit relationship financially. More companies need to implement an environmental policy because it benefits the company, as well as society. As companies continue to incorporate environmental accounting in as a part of their strategic initiatives, this study offers an example of the various research, which can be done to enhance the literature on CSR and environmental accounting.

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