

# Shareholders and Clients as Catalysts for Energy Efficient Buildings in Banking

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## ABSTRACT

Do the changing requirements of clients and shareholders drive the banking industry towards better building energy management? As part of a larger study (due for publication in late 2014) concerning how different organizations address energy management, we focused on one custodian bank and one retail bank to understand drivers motivating the banking industry to perform energy management. We observed that the banking industry focuses on attracting and retaining stakeholders, such as clients and shareholders. Increasingly stakeholders require a bank to run energy efficient operations. Inability to accomplish this leads to dollars and clients lost. Thus, clients and shareholders can catalyze energy efficiency in owned and operated bank buildings.

We performed two case studies of two banking groups and their owned and operated buildings. We interviewed facility management, building operations and management personnel and collected building energy data and implemented energy efficiency project documentation. Through the data collected, we demonstrate how client and shareholder requirements result in energy efficient building operations and energy program implementation.

In the first case study, we examined the effects of a client's requirement for ISO 14001 certification: (1) adoption of a process-driven management strategy for energy and sustainability, (2) generation of awareness of energy and sustainability across the staff, and (3) creation of commitment to the bank's environmental sustainability goals.

In the second case study, we examined how shareholder pressure to participate in the Carbon Disclosure Project resulted in the creation of the bank's energy and sustainability program including the development of (1) an emissions reduction goal and (2) an in-house energy team.

## **Context: Banks Underpin an Increasingly Environmentally Conscious Economy**

Concern for environmental sustainability and climate change is growing in the economy. This concern is particularly strong with large companies, members of the Global 500 (CNN Money 2011). This is evidenced by (a) the creation of environmental disclosure reporting frameworks, (b) publicly demonstrated corporate commitments to sustainability and the environment, and (c) stakeholders petitioning for stronger environmental disclosure practices while also urging companies to increase their disclosure (Crawford and Williams 2010; GRI 2013; Coburn and Cook 2014).

## **Environmental Disclosure Reporting Frameworks are Created**

Organizations are constructing frameworks for corporate environmental disclosure reporting. A corporate environmental disclosure report relates business operations and assets to climate change risks, and enumerates a business's effect on the environment. In 1997, the Coalition for Environmentally Responsible Economies (CERES) and the Tellus Institute founded

the Global Reporting Initiative (GRI). The GRI provides corporations with a framework for sustainability reporting. Since the publication of its first framework in 2000, four updates have been made and thousands of business experts have contributed to its development (GRI 2013). In 2001, the Carbon Disclosure Project (CDP) began soliciting environmental and climate change information from the top companies in the world (Crawford and Williams 2010). More recently, the US Securities and Exchange Commission (SEC) issued guidance on climate disclosure within the 10-K filing (Coburn and Cook 2014). These report frameworks are all means for corporations to disclose their impacts on the environment and to show their commitment to reducing these impacts.

### **Corporations Commit to Sustainability**

CEOs and corporations are publicly demonstrating their commitment to sustainability. Of the 766 CEOs surveyed by Accenture and the United Nations Global Compact, 93% “believe that sustainability will be critical to the future success of their business” (Flammer 2013, 758), and 91% claim “their company will employ new technologies to address sustainability issues over the next five years” (Flammer 2013, 758). Beyond commitment to sustainability from company leaders, environmentally focused corporate social responsibility (CSR) reporting is rising. Crawford and Williams (2010) claim that according to the KPMG’s Survey of Corporate Responsibility Reporting conducted in 2005 “more than half of the Fortune Global 250 issued a stand-alone sustainability report” (Crawford and Williams 2010, 512). Ballou, Heitger, and Landes (2006) also support this trend in increasing sustainability reporting.

### **Stakeholders Support Environmental Disclosure**

In addition to disclosure, organizations, large companies, and stakeholders are concerned about the environment. Investors are requesting more standardized environmental disclosure guidelines. Since 2003, institutional investors and organizations have petitioned the US SEC to issue interpretive guidance on climate change disclosure (Coburn and Cook 2014). In 2010, such guidance was issued (Crawford and Williams 2010; Coburn and Cook 2014). In 2014, Coburn and Cook (2014) recommend that the SEC increases its focus on enforcing its climate disclosure guidance because the disclosures within the 10-K filing are seen as a future means for obtaining comparable climate related information from a wide array of companies. The current quality of this data is neither pervasive nor robust (Coburn and Cook 2014). Stakeholder support of environmental reporting is yet another indicator of its importance in the market.

Stakeholders also pressure companies to disclose their environmental impact and value these disclosures. The rise in environmental disclosure reporting is related to the normative, cultural, and regulatory pressures imposed on corporations by their home market (Crawford and Williams 2010). As such, the strong presence of environmentally focused groups such as CERES and CDP in the USA lead to “the social obligation to disclose environmental, social and governance metrics....” (Crawford and Williams 2010, 513). Additionally, “shareholders react positively to the announcement of eco-friendly corporate initiatives” (Flammer 2013, 766), and negatively to eco-harmful behavior. Environmental consciousness among corporations is becoming the norm and companies act to uphold this norm (Flammer 2013).

## ISO 14001 Certification Signals Commitment to Environmental Responsibility

As disclosure is a means for a company to demonstrate its commitment to environmental sustainability and climate change, ISO certification is an accepted indicator of a company's commitment to regulated process-driven management. ISO is a collection of international standards for management and business processes. ISO was created "to facilitate the international coordination and unification of industrial standards" (ISO 2013). ISO certification enables clients and customers to discern businesses that regulate and track their processes from those that do not.

More specifically, ISO 14001 certification is understood as a company's commitment to environmental responsibility and management<sup>1</sup> (Bellese, Lehrer, and Tal 2005). ISO 14001 is the ISO environmental management standard. It is a guideline for constructing an environmental management plan centered around controlling a company's impact on the environment. It enables a company to create an environmental management strategy that emphasizes commitment to an ongoing process or way of doing business. ISO 14001 does not prescribe requirements, but emphasizes a management structure that upholds targets and objectives outlined in the required company environmental policy. Additionally, ISO 14001 encourages companies to use the best techniques available for mitigating their environmental impact and to consider the cost-effectiveness of the employed techniques. ISO 14001 is based on the plan-do-check-act structure. Like other ISO standards, it is a means to create process-driven management aimed at continuous improvement. The implementation of ISO 14001 is recognized on the market as a sign that a company is committed to continuously reducing their environmental impact (ISO 2004). As investors and shareholders are drawn to disclosure reporting, clients are drawn toward ISO certified companies (Coburn and Cook 2014; Bellese, Lehrer, and Tal 2005).

### Roles of Banks

Banks operate in and underpin this environmentally conscious economy by acting as lenders and investors. Consequently, banks are subject to stakeholder and market pressures to be environmentally conscious and to disclose their environmental impact. Among the Global 500 firms who responded to the 2013 CDP request for disclosure 46 of the 61 commercial banks, 8 of the 8 diversified financial services companies, and 9 of the 9 capital markets companies responded. Overall 94 of the 125 financial services companies within the Global 500 responded (PwC 2013).

Banks unlike non-financial corporations are affected both by environmental sustainability issues within their own operations and infrastructure and through their lending. Most studies focus on the environmental impacts of lending (Cogan 2008). However, what is the in-house impact of committing to environmental consciousness? How do stakeholder pressures shape the physical operations of a bank? Through case studies of two banks we show that stakeholder pressure impacts energy management structure and results in energy efficiency programming and energy efficient building operations.

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<sup>1</sup> "The responses of nearly half of the interviewees (42%) were classified category/code 1 [presumption of quality]. Importers reported that EMS [energy management system] certification is perceived as demonstrating sound management by the supplier as well as ethical responsibility and commitment toward the environment at all levels. (Bellese, Lehrer, and Tal 2005, 1949)"

## **The Case of ISO 14001: Bank a Embraces Process-Driven Management**

In October of 2013 we performed a case study of Bank A. Bank A is a custodian bank that accepts fiduciary responsibility for managing the assets of and overseeing the finances of corporations and companies. The bank provides their institutional investors with investment management, research, trading, and servicing. Bank A is one of the largest custodian banks by the amount of financial assets under custody, administration, and management. Bank A is a global company with operations in over 20 countries and clients in over 100 geographically located markets. This case study focused on the bank's Northeastern US office buildings and data centers. In total, 13 interviews were conducted and 13 personnel from engineering, facility management, sustainability, the variable resources team, or corporate management were interviewed. In addition to interviews, building energy data, energy and sustainability project data, business case reports, and public corporate reports were collected.

The case study showed how a client requirement influenced organizational changes around energy management (EM) at Bank A. We observed that a client's requirement to become ISO 14001 certified (1) provided a system for process-driven management of environmental sustainability (ES) and energy, (2) raised awareness about energy and sustainability, and (3) increased staff commitment to energy efficiency and sustainability by raising awareness. The following section details the structure of energy management at Bank A, and the bank's response to their client's ISO 14001 requirement.

### **Before ISO 14001 Bank A's Energy Management is Project-Oriented**

Energy management at Bank A is a component of environmental sustainability programming. The bank has environmental sustainability goals that are broken down into three target groups, carbon emissions, water consumption, and waste reduction. By year-beginning 2020, Bank A aims to reduce its carbon emissions (MT CO<sub>2</sub> per person) by 20% of a 2012 baseline<sup>2</sup>. Bank A accomplishes this goal with carbon reductions from building energy efficiency (EE) projects and programs.

Energy management at Bank A was project-oriented from 2008 to 2012. For this time period, we have record of 25 building energy efficiency projects completed (Table 1 and Fig. 1). These projects include HVAC and lighting equipment and controls changes. The energy savings achieved from these projects are converted into metric tonnes (MT) of carbon saved to measure their impact against the set emissions reduction goal (Fig. 2).

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<sup>2</sup>The bank has also committed to reducing its water consumption (gals/person) by 20% and its total waste (lbs./person) by 10%, while diverting 20% more waste from landfills, and recycling or sending 100% of its waste to an energy recovery facility.

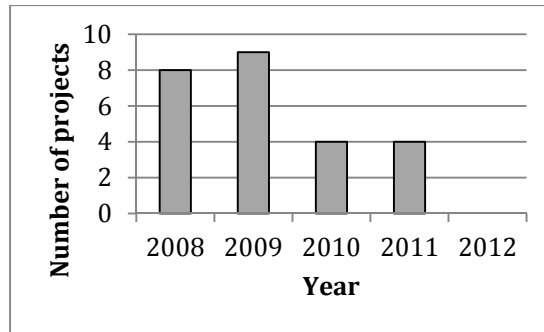


Figure 1. Bank A’s implementation of EE projects declines from 2008 to 2012.

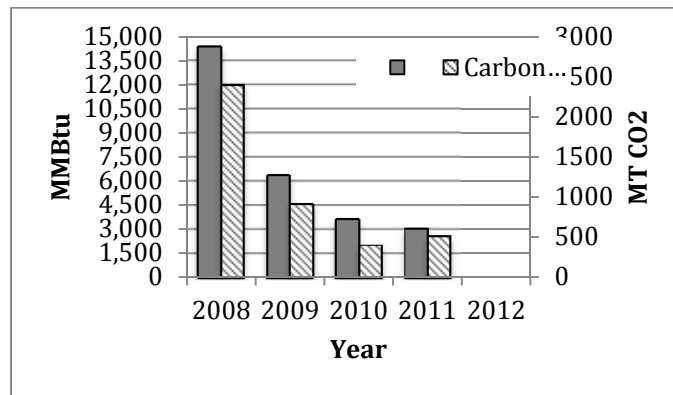


Figure 2. Energy and carbon savings for implemented projects at Bank A.

The effectiveness of the bank’s project-oriented EM strategy led to the bank exhausting feasible projects given its existing Northeastern building portfolio and willingness to invest in building EE projects. Seven projects under \$10,000 and eleven under \$25,000 were completed from 2008 to 2011 (Fig. 1 and Table 1). In 2008, dollars saved per dollar spent on energy efficiency was \$3.36. Between 2008 and 2011, this value declined year after year to \$0.48. Additionally, the average payback period for energy efficiency projects implemented increased from 0.36 years in 2008 to 1.81 years in 2011. Bank A’s project-oriented EM strategy generated energy savings and reduced carbon emissions, yet the data shows that continued savings and reductions from a project-oriented strategy are slowing down (Fig. 2).

Table 1. Project implementation cost breakdown for Bank A

Year	Under \$10k	10\$k to \$25k	\$25k to \$50k	Over \$50k
2008	4	2	1	1
2009	3	6	0	0
2010	0	1	2	1
2011	0	2	0	2
2012	0	0	0	0
Total	7	11	3	4

As the project approach to EM waned, Bank A began using non-project based strategies. For example, in 2012 funding potentially used for building EE projects was instead used to build out a new energy efficient office building into which four other offices were being consolidated.

In 2013, the bank began implementing more meter monitoring and energy consumption data management capabilities. The bank was seeking means to further analyze their energy consumption in order to determine how best to pursue EM. The next section shows how ISO 14001 filled the need for a new approach to EM.

### ISO 14001 Brings Process-Driven Management to Energy and Sustainability

In 2010, Bank A began assessing its compliance with ISO 14001. Thereafter, a UK client required that Bank A be ISO 14001 certified to do business with them. As a result, the bank started transitioning from compliance to certification across its building portfolio. By year-end 2011, ISO 14001 certification was achieved in offices in three UK cities. Certifications in the US were achieved beginning in 2012 with the bank’s financial center. Next, the owned data center was certified in spring of 2013. A client’s requirement and the prospect of losing business led the bank to move from ISO 14001 compliance to certification across its building portfolio.

ISO 14001 certification brought process-driven management to environmental sustainability and consequently to energy management at Bank A. ISO 14001 is the ISO environmental management standard. Since Bank A’s EM is a component of its ES, a standard affecting its environmental management affects its EM. For example, one interview respondent commented, “The driver for [Bank A’s building operations and management staff] is ISO [14001] and making [energy management] a systematic approach, rather than a program approach. Programs usually happen and result and then go away, where ISO is always in our daily living pattern” (Real Estate Sustainability Manager).

ISO 14001 is enabling the bank to maintain savings achieved with building energy efficiency projects and to continue improving their building operations. From 2010 to 2011 aggregate EUI decreased, this corresponds to energy savings projects implemented in 2011 (Fig. 3). However, EUI continues to decrease from 2011 to 2012 although no building EE projects were completed during this timeframe (Fig. 3). Additionally, this time period corresponds with the implementation of ISO in the Northeastern portfolio and abroad, thus showing that for Bank A ISO appears to influence building energy management.

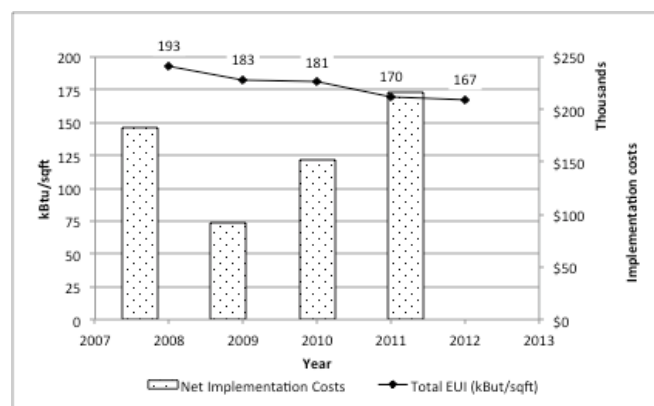


Figure 3. Bank A’s site EUI decreases in the absence of EE projects indicates that ISO affects building energy management and building energy performance.

Additionally, five of eleven<sup>3</sup> interview respondents emphasized that ISO provides a system for maintaining performance while LEED and Energy Star certifications are viewed as point in time performance accomplishments. Thus, the upkeep of the building performance achieved under LEED or Energy Star depends on the building operation team's continual management and maintenance procedures, and not the program's implementation. For example, a respondent commented, "the big difference between an Energy Star and a LEED versus ISO 14001 is that Energy Star and LEED take a snapshot of where you are now ... and ISO 14001 is a much more procedural thing that you've got to continue to improve or else you aren't part of the ISO standard" (Real Estate Manager). The bank has achieved an Energy Star certification for one building in its Northeastern portfolio, and uses Energy Star Portfolio Manager (ESPM) to assess annual building energy performance for three buildings. The bank does not use ESPM as a means to continuously monitor building energy performance. The bank also has LEED certifications for two Northeastern portfolio buildings.

The implementation of ISO 14001 ingrained awareness of sustainability and energy efficiency into the building operation team's day-to-day activities by requiring audited documentation. For example, "[Bank A created] a global environmental management system that's ISO 14001 compliant. It's very similar in many aspects to the EPA portfolio manager [however] ... it's not software. It's [a manually updated document that is being introduced] down to the facilities manager level..." (Environmental Sustainability Manager). Additionally, the bank's building operation team maintains records of preventative maintenance, scheduled and completed building system testing, and building energy efficiency initiatives. The procedures documented are environmentally and energy related since Bank A's focus on energy efficiency is embedded into the bank's environmental sustainability strategy. Thus, ISO 14001 creates awareness of sustainability and energy efficiency. Rondinelli and Vastag (2000) through studying the implementation of ISO 14001 at an aluminum plant agree that ISO 14001 creates employee awareness of environmental issues.

This created awareness is further supported by case study interview responses in which respondents claim that ISO, sustainability, and/or energy efficiency is embedded in their daily work. Three respondents of the seven technical staff members<sup>4</sup> interviewed reported that they are always looking out for energy consumption anomalies or building systems operating outside of their set points. Eight of eleven respondents stated that everyone is able to and does participate in energy management. The ISO process embeds awareness of sustainability and energy efficiency by making it a part of the day-to-day operations.

This awareness generates commitment to the bank's environmental sustainability goals. Personnel, at all levels of the hierarchy, demonstrate their commitment by ideating energy efficiency and sustainability initiatives. For example, the Global Director of Energy and Sustainability collaborated with a vendor to generate a lighting retrofit project for the owned data center and used a utility rebate to help fund the project. Additionally, engineers, maintenance technicians, or Facility Managers generate energy efficiency measures by identifying inefficiencies in the building's systems. One engineer noticed excessive nighttime electricity consumption by the financial center's chilled water pumps in the absence of demand. The pumps were running at 60%-100% of full capacity at night without demand, when daytime demand

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<sup>3</sup> Transcripts were recorded for 12 of the 13 interviews. 11 of the 12 recorded interviews were relevant to the US building portfolio examined for this study.

<sup>4</sup> Technical staff includes personnel from the engineering group, Facility Management group, and the Global Director of Energy and Sustainability.

required only 40%. After an analysis of the BMS, the engineer recommended a controls change, which resulted in annual savings of almost 3 million kWh. ISO 14001 has made energy efficiency and sustainability part of the staff's day-to-day activities, leading to awareness and demonstrated commitment to energy efficiency and sustainability.

A client's requirement to work with an ISO 14001 certified bank has ingrained process-driven management into the bank's environmental sustainability strategy. It has also resulted in staff-wide commitment to the bank's environmental and sustainability goals. This manifests as the use of process-driven management beyond the environmental realm of ISO 14001. The employees demonstrate their commitment by looking out for inefficiencies and generating solutions. Given the data available, ISO appears to have helped Bank A maintain its energy savings and to continue saving (Fig. 3). Though no energy efficiency projects were completed in 2012 the aggregate EUI for three main buildings within the Northeastern portfolio decreased; two of these buildings are ISO certified.

## **The Case of CDP: Disclosure Reporting Engenders Energy Management Activity**

In October of 2013, we performed a case study of Bank B. Bank B is a financial services company comprised of business banking, retail banking, and wealth management divisions. The bank's branches, office buildings, and operation centers are located in more than three states, Canada, and Mexico. As of year-end (YE) 2013 the bank ranks in the top 50 US banks by assets. This case study focused on the bank's office buildings and operation centers in the Midwestern United States. In total, four buildings were toured, eight interviews conducted, and twelve personnel from engineering, facility management, the energy team, or corporate management were interviewed. In addition to interviews, building energy data, energy and sustainability project data, business case reports, and public corporate reports were collected.

The case study was conducted to understand the development of Bank B's energy management strategy. We discovered that shareholder pressure on the bank to perform environmental disclosure reporting catalyzed the bank's development of an energy and sustainability effort. This effort manifests as (1) the development of a Corporate Sustainability Office, (2) year after year disclosure reporting to date, (3) a GHG reduction goal, (4) a dedicated in-house energy team, and (5) building focused energy efficiency initiatives. The following sections detail the motivation for the shareholder's resolution and the bank's response.

### **Shareholder Resolution and Bank Response**

In 2007, a shareholder resolution requested that Bank B perform CDP reporting because the bank had not yet disclosed its environmental impact and was among the S&P 500 companies who were solicited in 2006 but did not disclose. In 2006, the CDP sent its first request for disclosure to all US companies in the S&P 500. The purpose of the CDP is "to inform managers about investors' concerns about climate change and to inform investors about firms' risks associated with climate change" (Stanny and Ely 2008, 339). Annually, the CDP globally petitions top firms, e.g., members of the Global 500, to complete a rated questionnaire concerning management (18% of the score), risks and opportunities (30%), and emissions (52%) as related to each company's impact on the environment and climate change (Coburn and Cook 2014). In 2013, over 5000 companies across the globe were asked to report. Additionally, 81% of the largest public companies on the Global 500 replied (PwC 2013).



In response to a shareholder resolution to disclose the bank's greenhouse gas (GHG) impacts through CDP reporting, Bank B developed a sustainability office and strategy. In 2008, the bank created the Corporate Sustainability Office to manage and perform CDP reporting. Concurrently, the bank contracted a consulting company to help develop a sustainability strategy. In addition to a sustainability strategy, the bank adopted a system to account for its GHG emissions and climate related risks. As a result, the bank publicly issued its first environmental policy. The shareholder resolution requesting the bank to perform CDP reporting prompted an expansion of the bank's existing corporate management and the beginning of a corporate sustainability strategy.

Shareholder pressure instilled lasting commitment to disclosure reporting. Bank B completed its first CDP report in 2008, and has completed CDP reporting every year since. This behavior aligns with the conclusions of Stanny and Ely (2008). Once a company begins environmental disclosure reporting it continues to report for fear of negative perception. The lack of disclosure becomes equated with negative performance (Stanny and Ely 2008).

Preparation for CDP reporting enabled Bank B to formulate a GHG reduction goal. One respondent commented, "[Performing CDP reporting] created the beginning of the sustainability director and office and then they also wanted to set a reduction goal" (Real Estate Sustainability Manager). Thus, the bank conducted building audits to identify buildings where building energy performance could be improved. By 2010, the bank determined that its real estate portfolio contributed 93% of the bank's total GHG emissions from energy use. This encompasses three scopes of energy: (1) natural gas and fuel for generators, (2) electricity, steam, and chilled water, and (3) estimated energy consumed by leased but not controlled buildings. Thus, a 15% GHG reduction goal relative to a 2008 baseline was confirmed in 2010 to be achieved by YE 2014.

The economic recession slowed the bank's progress towards its goal. Between 2008, when a goal was first envisioned, and 2011, one year after the goal's inception, efforts to reduce GHG emissions were confined to attrition, consolidation, and LED lighting projects. By YE 2011, the bank had reduced its GHG emissions by 5.3% relative to the 2008 baseline.

Achievement of the bank's GHG reduction goal necessitated dedicated in-house building operations and building management personnel. The bank realized that an energy team within the in-house contracted real estate management group was required to generate, analyze, and coordinate the initiatives used to reduce the bank's emissions. It also saw a need for an accessible building operations staff, technicians and engineers, to implement energy programs and projects. However, the economic recession slowed the solidification of these teams. Between 2008 and 2011 the building operations team relied on outsourced labor. This change was made to reduce the overhead costs associated with staffed engineers and technicians. The contracted real estate management group had an energy team comprised of only an energy manager. Beginning in 2011, coincident with economic recovery, the bank added staff to its in-house building operations team. The bank also expanded the energy team from one full time employee to three by mid-2012. First, a new energy manager was hired in the beginning of 2012. The interim energy manager became the energy team's analyst. Finally, an energy project manager was hired in mid-2012. In 2013, Bank B began developing a collaborative team spanning the contracted real estate management group, the Information Systems group, and the corporate Real Estate group. This team was created to increase communication among these groups, and to enable them to increase sustainability efforts within the critical spaces. Bank B realized these groups were essential for maintaining the integrity and efficiency of its infrastructure and to achieve the bank's GHG reduction goal. The GHG reduction goal, which originated from the bank

performing CDP reporting, led to the formation of an in-house energy team and accessible dedicated in-house building operations and critical systems personnel.

Solidification of the energy team in concert with the approaching GHG reduction goal's deadline led to an increase in savings efforts and programming generated and completed. In 2012, an audit of each of the six largest energy-consuming buildings was conducted. These audits enumerated savings opportunities including lighting upgrades and controls changes, HVAC equipment and controls changes, and hot water set point reductions. By YE 2012, 36 energy conservation measures of the 87 recommended across all six buildings were implemented. These measures saved over \$196,00 (Fig. 4)<sup>5</sup>.

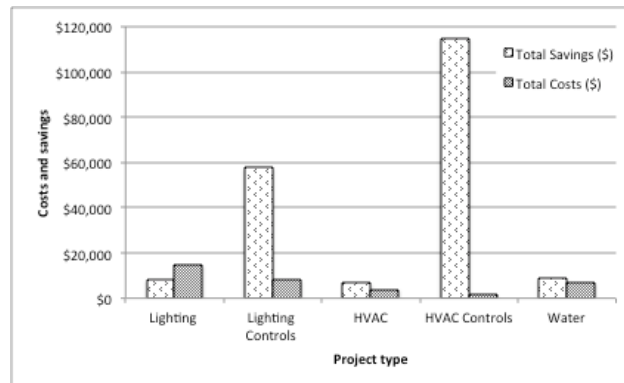


Figure 4. Bank B building EE project costs and savings for 2012.

Between 2012 and 2013 the steam heating system at each of the two downtown high-rise office buildings was converted to high efficiency natural gas boilers. It was calculated that the natural gas boilers emit over 60% less GHG than incineration used to generate steam<sup>6</sup>. These boilers will provide monetary savings in the tens of thousands over the next 10 years compared to the previously installed steam heating system. Automation of data center cooling in the bank's two operations centers was also completed in 2012. Analysis of the implemented automation system relative to the previous set point technique showed an almost 20% energy savings for one of the data center rooms.

The 57 energy and sustainability programs completed, in progress, or scheduled to occur in 2013, are dominated by programs within four categories: (1) energy and emissions reporting 18% of total, (2) utilities 9%, (3) project analysis 16%, and (4) building operations data analysis 16%. The most initiatives completed fall under energy and emissions reporting 16% of total. This further demonstrates the lasting effect the shareholder resolution to disclose environmental impact has on the bank. The next most pursued types of initiatives fall into categories (2) thru (4). This further supports our claim that the cascading effect of the shareholder resolution instigated a building focused energy efficiency effort.

<sup>5</sup>The research team does not have kWh or carbon emissions reductions data for these projects.

<sup>6</sup> The research team does not have measured savings because the commissioning for this new heating system was in-progress when the case study was conducted.

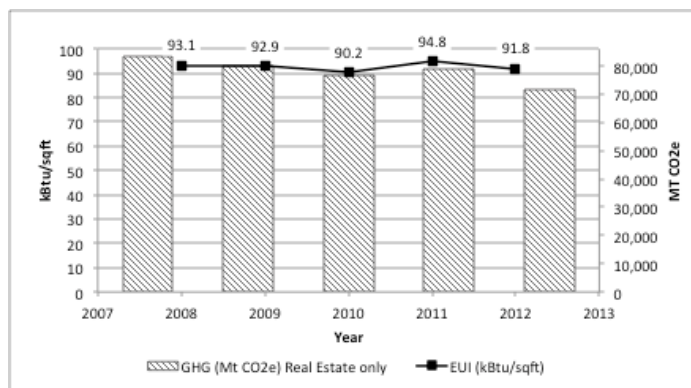


Figure 5. Bank B's carbon emissions and EUI decrease over time.

Bank B's commitment to making its building portfolio more energy efficient is a result of the chain of events taken to uphold a shareholder's requirement for climate change disclosure. The preparation required to complete disclosure reporting resulted in the bank having the resources needed to investigate its energy use and GHG emissions. Thus, the bank was able to identify its real estate portfolio as its largest contributor to its GHG energy related emissions. Consequently the bank developed a real estate focused GHG emissions reduction goal, energy management team, and enacted energy efficiency and sustainability initiatives to accomplish its goal. GHG emissions and EUI remained relatively constant from 2008 to 2009 (Fig. 6), the first two years of CDP reporting without a GHG reduction goal. Once a carbon reduction goal was instated in 2010, both GHG and EUI began to decrease (Fig. 6). The rises in 2011 was attributed to worse weather than that of 2010 and 2012. Though the EUI in 2012 did not rebound lower than that of 2010 it should be noted that over 780,000 square feet of office space was consolidated from 2008 to 2012 and EUI decreased overall for this time period. Thus the ability to maintain a continuous downward trending EUI despite reduced office space demonstrates the effects of energy saving efforts beyond consolidation.

## Conclusions

Banks, being client and shareholder focused, will make strategic changes to keep business. Stakeholder pressure to be environmentally sustainable impacts the building operations at and corporate strategies of banks. These strategic changes, the adoption of ISO 14001 certification and the performance of CDP reporting, have cascading effects on the bank's overall management structure and strategies. For the two cases studied, we show that the banks' responses to stakeholder requirements and requests (1) leads to the adoption of process-driven management, (2) spreads awareness and commitment to environmental sustainability, and (3) influences the creation of an energy and sustainability strategy and management team. In the cases studied these actions enable EM to occur and help bolster energy and carbon savings year after year. From the data collected, we observed that Bank A reduced its EUI by over 25 kBtu/sqft and saved over 4,000 MT CO<sub>2</sub> by year-end 2012. Bank B saved over 11,000 MT of CO<sub>2</sub>, and reduced its EUI by over 1 kBtu/sqft.

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