Sustainable Business & Enterprise Roundtable

SUSTAINABLE BUILDINGS & BUSINESS

Executive Guidance on Sustainability Strategy for Operations

SUSTAINABILITY ROUNDTABLE, INC.
LEADERS CREATING VALUE

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Executive Summary

This *Sustainable Operations Strategy* report is part of SR Inc's year-round Sustainable Business & Enterprise Roundtable (SBER) business service. SR Inc presents this management best practices executive guidance to address the expressed and growing interest of SBER Members in moving beyond project-by-project sustainability efforts to develop and implement an enterprise-wide sustainable operations strategy.

Leading executives recognize that a comprehensive and **organized commitment to corporate sustainability better aligns them with leading investors, customers, talent, and regulators**. Executives find that **sustainability is a better way to organize and motivate geographically dispersed, and multi-functional teams**, than the traditional commitment to optimization that disregards environmental considerations beyond minimal compliance measures.

Leading executives have recognized that **aggregating and pairing sustainability initiatives** that have an immediate payback, with initiatives that have a longer-term payback period, can help create a successful sustainability strategy. Such a strategy helps better organize and animate the drive to high performance in a manner that **gains Board, investor, and top customer recognition and support**.

The management best practice executive guidance and recommendations presented in this report are and are strictly vendor- and solution-neutral, and are premised on many dozen, and years long, consultation to SR Inc Member-Clients.

Key Takeaways

- Leading companies recognize that sustainability is a megatrend that presents strategic imperatives for senior executives
- A comprehensive, internally branded sustainable operations strategy is better recognized and resourced by the C-suite and the Board, as well as better rewarded by investors and supported by employees than disparate initiatives
- Leading executives overcome barriers to developing and implementing a sustainability strategy by establishing:
  - A compelling, long-term sustainability vision and building a strong business case that leverages existing continuous optimization efforts
  - Effective governance, policies, and management structures to institutionalize sustainability
- Executives can evaluate the maturity of their sustainability strategy for buildings and business, and identify improvements by using assessment tools such as the SBER Diagnostic and Assessment, a proprietary, confidential benchmarking and guidance tool developed by SR Inc
- The SBER Assessment reveals that leading companies in multiple sectors and industries invest broadly in five common components of a sustainable operations strategy, including:
  - Vision & Governance
  - Strategy
  - Guidance
  - Implementation
  - Reporting Results

Section 1 of this report discusses how corporate sustainability provides a strategic approach to innovation and optimization in a world of rising resource constraints. An enterprise-wide **sustainable operations strategy** provides an under-explored opportunity for executives to align with, and extend, a conventional commitment to continuous optimization and innovation.

SBER Member-Clients have found an embrace of corporate sustainability both:

1. Imbues a traditional commitment to excellence in business with the strategic intelligence of social and environmental relevance
2. Enables them to better engage and align with top investors, customers and employees while reducing risks and encouraging innovations of growing importance in a changing world

This section identifies the key drivers to implementing and enhancing a sustainability strategy. Based on insights from SBER Member-Clients and ongoing discussions with leading executives (see Sections 2 and 3 below), SR Inc has identified five key components of a sustainable operations strategy, which are described in detail in this section. These five components are: Vision & Governance, Strategy, Guidance, Implementation, and Reporting Results. Finally, the section discusses the major barriers to the adoption of a sustainability strategy, as well as strategies to overcome them.

Section 2 includes three case studies to illustrate why and how leading companies have moved toward enterprise-wide sustainability strategies for operations.

The Hartford Financial, one of the largest investment and insurance companies in the United States, has issued a Statement on Climate Change. The company sets specific GHG emission reduction targets and is in the process of spending over $20 million for sustainability programs.

Swiss Re, one of the world's largest reinsurers and a leader in risk securitization and trading, uses sustainability as a key guiding principle to create long-term shareholder value. Its vision for sustainability is to be completely carbon neutral, a commitment it made publicly in 2003.

Lend Lease, an international leader in project management and construction, owns and operates a diverse range of businesses in more than 30 countries. The company has chartered their own Sustainability Committee, identified over 25 sustainability "aspirations" to strive to meet, in a

dition to establishing an Environmental Policy, Green Office Action Plan, Responsible Investment Property Policy, and Corporate Metrics Reporting Guidelines.

Section 3 of the report features two SBER Member-Client case studies which provide in-depth insights and lessons learned from executive leaders who are successfully advancing sustainability strategies for operations.

Member-Client SAP is a leading provider of enterprise software applications. SAP has incorporated sustainability in its business strategy and goals. The company has developed a roadmap for implementing its sustainability strategy and is one of the first companies to utilize the carbon abatement cost curve methodology for identifying and prioritizing sustainability projects.

Member-Client Bentall Kennedy takes a business case approach to sustainability focused on enhancing long-term value for its investors. The company has a three-year strategy in place, and is currently garnering executive support for a longer-term sustainability vision that includes goals such as energy cost reductions portfolio-wide, and improving tenant well-being.

Section 4 of the report provides a management framework for more sustainable buildings and business supported by sector-specific examples based on the five key components of a sustainable operations strategy presented in Section 1. It explains that leaders in sustainable operations establish:

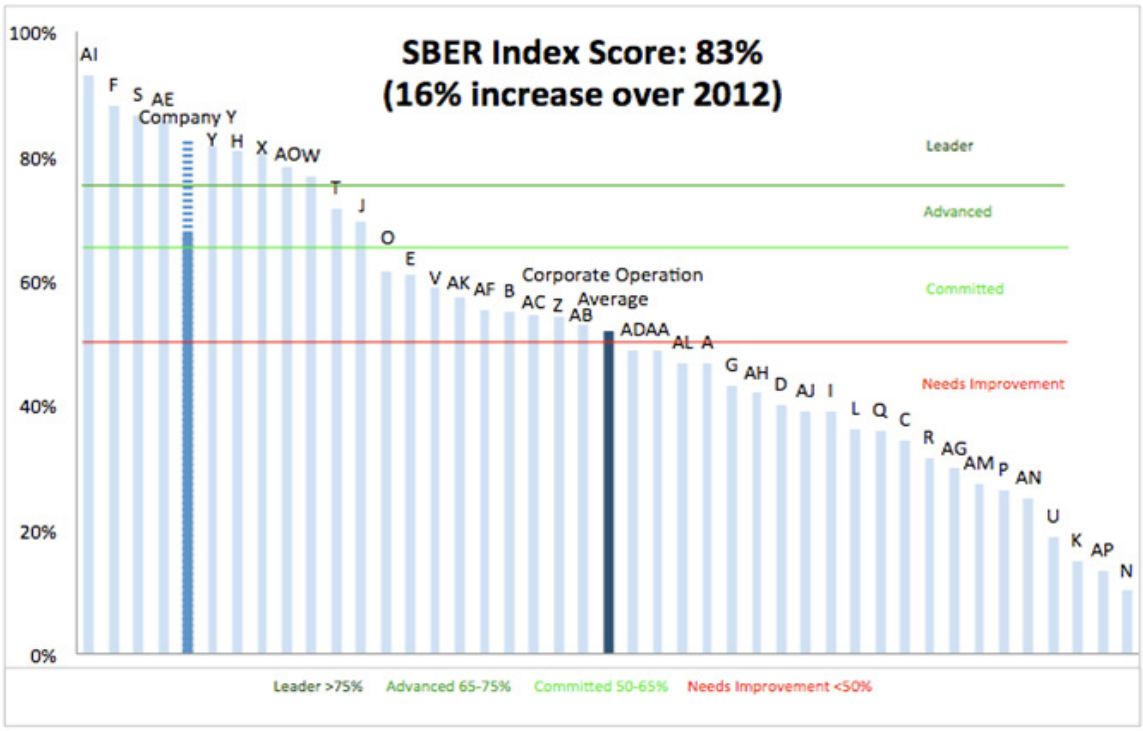
- A compelling, long-term vision supported by effective governance, policies, and management structures to institutionalize sustainability
- A comprehensive set of qualitative short-, medium- and long-term goals and develop a strategy to achieve them
- Sufficient resource allocation (financial, human, and technical) to implement the strategy effectively
- Comprehensive guidance, sustainability KPIs, and benchmarking, to create a robust context for quantitative target setting
- Stringent internal and external reporting on sustainability results

Executives evaluate the maturity of their strategy and identify improvements to accelerate progress by using evaluation frameworks such as SR Inc's framework presented in this report and reflected in SR Inc's SBER Assessment.

SBER Member-Clients are evaluated in five components—Vision and Governance, Strategy, Guidance, Implementation, and Reporting Results—over the past two calendar years. Each component constitutes a weighted portion of the SBER Index score show in the figure below. Companies that have been SBER Member-Clients for more than 1 year are able to track their progress on a year-over-year (YOY) basis, which allows for a richer analysis of their multi-year sustainability strategies. The YOY trend is represented by the hatched line in the below figure.

Members Assessed on Sustainability Best Practices in Real Estate and Operations

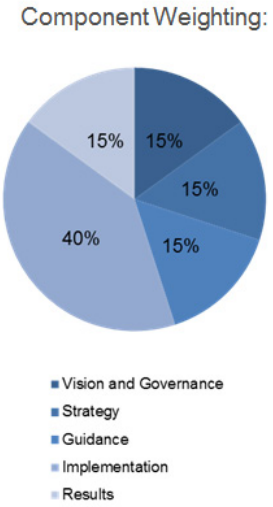
SR Inc research.

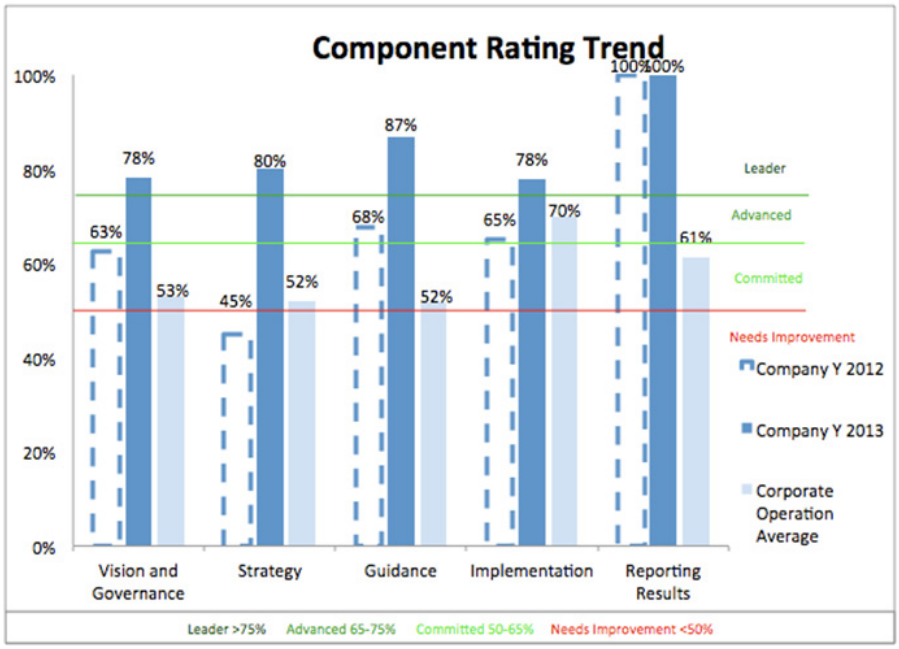


Cohort Members are qualitatively benchmarked by their quartile of performance in each of the five component areas (see figure below), based on the methodology described in the SBER Assessment. Each SBER Component Rating compares the company and the cohort against the averages for all Member companies for the current calendar year and any previous calendar years.

Member Assessment Score by Component

SR Inc research.

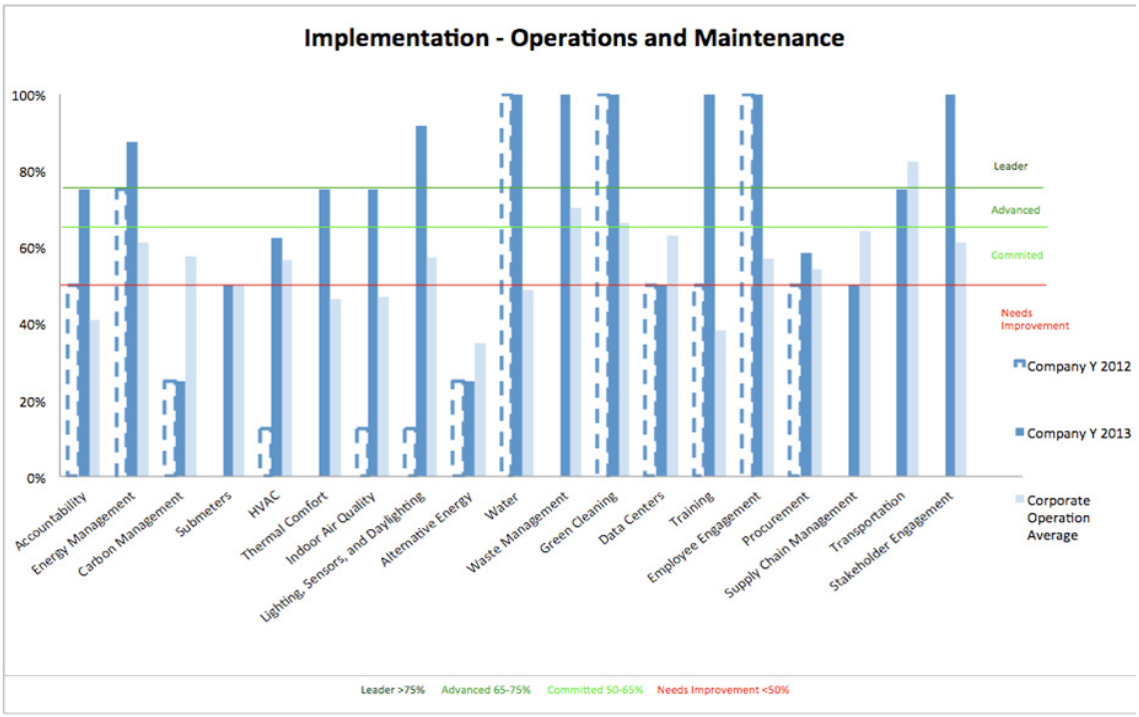




The below graph shows detailed scoring and performance of the Operations & Maintenance section of the implementation component of the SBER Assessment. In order to improve their implementation scores, companies use this graph to prioritize areas of additional improvement, particularly ones that fall into the "Needs Improvement" category.

Member Assessment Key Operations and Maintenance Practices

SR Inc research.



Introduction

Key Takeaways

- Corporate sustainability provides a strategic approach to innovation and optimization in a world of rising resource constraints
- A sustainable operations strategy is aligned with, and extends, a commitment to continuous optimization, which supports corporate sustainability
- Member-Clients have found an embrace of corporate sustainability imbues a traditional commitment to excellence in business. Corporate sustainability also enables companies to better align with top investors, customers, and employees while reducing risks and encouraging innovations of growing importance in a changing world
- SR Inc's SBER Assessment of Member-Clients' sustainability programs reveals that leading companies invest broadly in most of the five components (Vision & Governance, Strategy, Guidance, Implementation, and Reporting Results) of a sustainability strategy, however, most companies still do not adequately invest in Vision & Governance or Reporting Results
- Leading executives overcome barriers to developing and implementing a sustainability strategy by: developing a business case, seeking alignment with the C-suite and core business, convening a cross-functional team, identifying the value beyond cost-savings, and following standard KPIs for measurement, benchmarking, and education

1.1 Overview of Corporate Sustainability

This report provides guidance and analysis on the creation and implementation of an effective sustainability strategy for buildings and business. Member-Clients have made it clear there is a need and opportunity for SR Inc to identify leadership strategies in sustainable operations beyond the real estate portfolios (as described in SR Inc Report *Advancing Portfolio-wide Sustainability Strategy*).

The Sustainability Megatrend

The emergence of sustainability as a megatrend in the business world has led to growing sustainability commitments by companies. The 2013 UN Global Compact-Accenture Survey found that 93% of more than 1,000 CEOs see sustainability as important to the future success of their business. While only 33% report that business is making sufficient efforts to address global sustainability challenges, 63% believe their industry will be transformed by sustainability within five years. This presents an opportunity for companies to create and implement sustainability strategies to address rising resource constraints and mitigate risks[1].

Below are examples of the breadth of issues that are being incorporated into successful sustainability strategies for operations:

- Employee health and safety
- Employee commuting
- Employee and vendor diversity
- Supply-chain management
- Community development
- High performance buildings

A growing number of companies recognize that sustainable operations are increasingly critical as part of a competitive business strategy. Leading companies, like SBER Member-Clients Bentall Kennedy, Capital One, Cisco, SAP and Toyota, as well as General Electric, IBM, Nike, and Walmart have demonstrated that a sustainability strategy can yield real success in the forms of product innovation, energy savings, market share, and more.

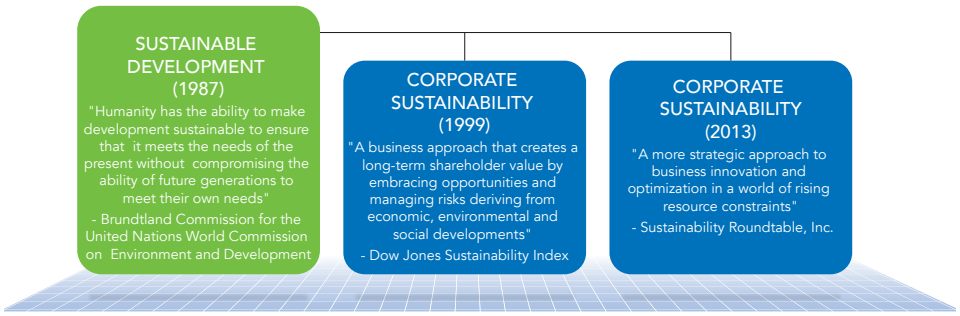
Corporate Sustainability is Distinct from Sustainable Development

Figure 1 below shows the relationship between the concept of sustainable development and corporate sustainability, and how it has evolved over time. The concept of corporate sustainability evolved from the idea of 'sustainable development,' as defined by the **Brundtland Commission** for the United Nations. It takes into consideration environmental sustainability, in addition to sustainable development, and applies it in the context of corporations.

[1] http://sloanreview.mit.edu/reports/sustainability-strategy/

Figure 1. Development of Corporate Sustainability

http://conspect.nl/pdf/Our_Common_Future-Brundtland_Report_1987.pdf), Dow Jones, SR Inc.



The **Dow Jones' definition** makes clear that corporate sustainability is not an additional cost item, but instead, a superior approach to management. The **SR Inc definition** of corporate sustainability builds on the Dow Jones' definition, yet simplifies it, and clarifies that rising resource constraints are driving an alteration in strategic context. This is a profound change of growing importance that corporations must take into consideration when optimizing their businesses.

Corporate Sustainability is increasingly recognized by the world's leading companies as a more strategic approach to continuous optimization and innovation. Numerous corporations (both those that have implemented elements of a sustainability strategy and those that have not) are now realizing the need to address and manage the risk of rising resource constraints through creating and implementing a **sustainable operations strategy**. In summary, more sustainable operations are a critical lever that companies largely control and can help them create a sustainable business advantage in a rapidly changing world.

Sustainability Nears a Tipping Point

In winter 2012, the **Boston Consulting Group (BCG) and MIT Sloan Management Review** partnered to author a report entitled "Sustainability Nears a Tipping Point."[2] The report reflects BCG and MIT Sloan's three-year annual survey of several thousand executives globally on sustainability within their organizations. The results highlight the urgency to embrace corporate sustainability as a leading principle of business management in an increasingly global and resource-constrained age[3]. The report found that companies that are "harvesting" the profit of greater sustainability were set apart not by industry type but by their comprehensive commitment to sustainability[4].

[2] http://sloanreview.mit.edu/reports/sustainability-strategy/
[3] Id.
[4] Id.

A Growing Opportunity for Executives

A **Sustainable Operations Strategy focuses on Scope 2 GHG emissions**, as defined by the U.S. EPA under the Greenhouse Gas Reporting Program (GHGRP). Scope 2 emissions are defined as:

"Indirect GHG emissions resulting from the generation of electricity, heat, or steam generated off site but purchased by the reporting agency."[5]

As such, the importance of sustainable operations is particularly pronounced for operations executives in service companies. Due to the lack of physical product, service companies must optimize operations in order to become sustainable. Service executives are realizing the powerful and relatively inexpensive opportunity that a sustainable operations strategy provides.

Yet, the opportunity is not solely for operations executives in service companies, but also for executives at real estate companies. Real estate executives are responsible for emissions from the direct company sources they oversee, and they also have an opportunity to implement a sustainable operations strategy -- **an intelligent approach to management** that allows them to better organize and animate their efforts towards more efficiency, as they streamline materials, energy, waste and water, and better align with top tenants.

1.2 Value of Sustainability

Executives are increasingly seeking to develop a Sustainable Operations Strategy. Such a strategy can support a number of overall business goals, such as:

- Aligning with top talent, customers, investors, and regulators
- Decreasing the costs of buildings, energy, and operations
- Reducing risks associated with climate change, resources, price volatility, and related social concerns
- Mitigating existing or anticipated risks of regulations related to GHG emissions and efficient use of resources
- Enhancing shareholder value due to an increased ability to attract and retain top talent
- Moving from cost savings to value creation

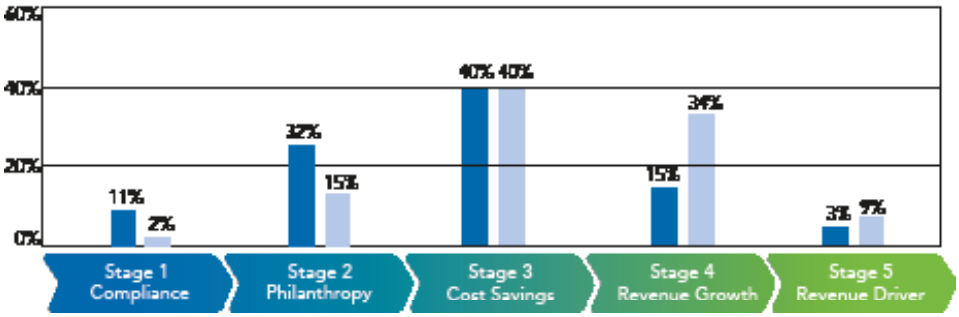
In **Figure 2** below, stages 1 through 5 represent the different levels of engagement corporations may enter throughout the lifespan of a sustainable operations strategy. It should be taken into consideration that even despite the financial crisis beginning in 2008, and without a reasonable promise of pricing carbon pollution in the U.S., Stage 5/Revenue Drive increased 3 times, and Stage 4/Revenue Growth grew 19% -- showing both

[5] http://www.epa.gov/oaintrnt/glossary.htm#scope1

a continuing focus on and increasing value of corporate sustainability in the face of budget cuts and impending regulations. Please note that Figure 2 is distinct from the SBER diagnostic assessment.

Figure 2. Engagement in Corporate Sustainability and Progress from Bottom-Line to Top-Line 2006-2012.

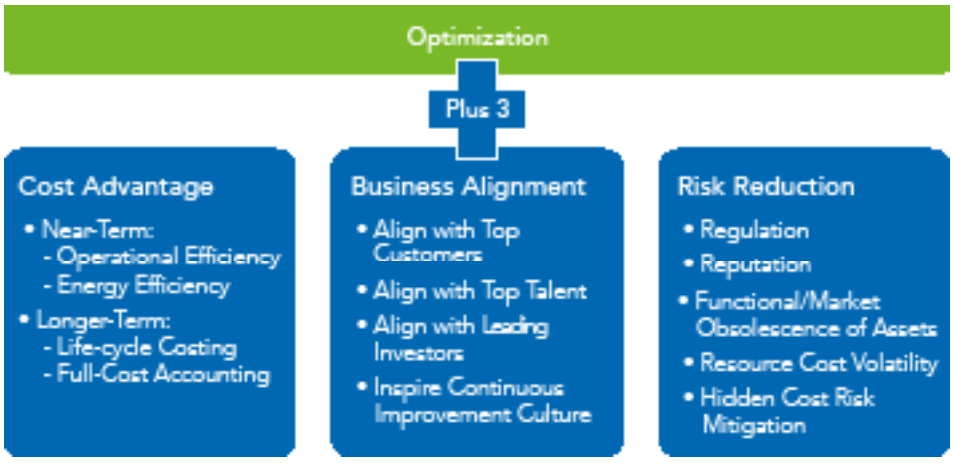
Source: Simens & McGraw Hill Construction, A Path to Achieving Higher Building Performance, 2012



A growing number of companies are moving away from project-by-project sustainability efforts and are looking to develop and implement an enterprise wide sustainability strategy. Sustainable business is about better aligning your enterprise with market drivers to reduce risks, build talent, drive innovation, and consistently increase margins. Continuous optimization is an important part of corporate sustainability -- yet a sustainable operations strategy delivers more than what a conventional commitment to optimization provides. **Figure 3** highlights the "Optimization plus Three" approach to a sustainable operations strategy, comprised of cost advantage, business alignment, and risk reduction -- what a sustainability strategy offers beyond a conventional commitment to continuous optimization.

Figure 3. The Advantage of Corporate Sustainability Over Conventional Optimization – "Optimization Plus 3"

SR Inc research



While the three components above define the primary drivers for sustainability beyond conventional business optimization, **Table 1** presents a comprehensive list of key drivers for sustainability in general. The table also details how these drivers influence specific companies, listing key examples for each driver.

1.3 Market Drivers for Sustainability

In general, executives find that advancing a comprehensive sustainability strategy for buildings and business requires buy-in from senior management as well as grassroots support. Therefore, they identify market drivers and opportunities that can impact the operations and value of their business. Leading companies, however, have long recognized the key market drivers for sustainability within their sector and throughout commercial operations. They seek to incorporate sustainability within the overall business mission, recognizing the value proposition it provides.

Table 1. Key drivers for a sustainable operations strategy.
Source: SR Inc research.

Key Driver	Description	Example
Lower Operating and Maintenance Costs	Benefit from costs savings resulting from reduced energy and water use as well as better building maintenance. A 2010 study of the green building market and impact reported that the documented energy savings from green buildings range from 18% to 39% over conventional buildings.[5]	SBER Charter Member Gensler has implemented lighting retrofits in its D.C. office and reduced energy use by 26% (see SBER Report: More Sustainable Leased Space (2011)). Leading companies like Bank of America, Best Buy Co., Starbucks Corp., and Target are taking advantage of the new LEED Volume Program to reduce the costs of certification while leveraging the cost savings of more efficient buildings.
Mitigated Regulatory Risk	A 2010 survey of sustainability executives asserts that the percent of sustainability managers identifying regulatory compliance (with existing and anticipated mandates) as a driving force in the sustainability program increased from 11% in 2008 to 27% in 2010, mostly due to GHG mandates, changes in building codes, and local requirements.[6]	The Federal Energy Policy Act of 2005 (EPAct) created tax deductions for energy-efficient commercial buildings, and the Energy Independence and Security Act of 2007 (EISA) established a goal for new commercial buildings to be zero-net-energy by 2030.[5]
Enhanced Brand and Reputation	Green business strategies help create brand value and enhance brand and reputation. Some respected sources have reported that today intangibles like brand and reputation, innovation, risk management, and human capital often represent over 80% of a company's valuation.[8]	SBER Charter Members Akamai and Autodesk pursued a more sustainable RE portfolio and LEED certification as ways to demonstrate sustainability commitments and actions to customers and other stakeholders. For more examples, see SBER Report: More Sustainable Leased Space (2011).
Pressures to Improve Environmental Performance	Globally, pressures are growing on companies to improve their environmental practices. Multiple studies have reported that customers, employees, and investors are playing an increasingly important role in the move to more sustainable business practices.[9] [10] [11]	A 2009 Cone study reported that even amid the 2007-2009 recession 70% of Americans said they were "paying attention to what companies are doing with regard to the environment" and 35% said they had higher expectation than a year prior. Sixty one percent of employees in a Society for Human Resource Management workplace study said they are "likely" or "very likely" to stay longer with their current employer as result of its environmentally responsible program. The Carbon Disclosure Project, led by 551 institutional investors with over $71 trillion in assets under management, is driving a greater number of companies to report and reduce their GHG emissions.[12]

Key Driver	Description	Example
Advanced Green Technologies and Low-Cost Green Products	The continuing clean technology revolution has led to a growing number of green innovations in mechanical, electronic, and electrical systems. "Green" products are increasingly offered at little or no price premium (e.g., energy efficient lighting, no-VOC paints, and green cleaning products).	Georgia Tech used GREENGUARD certified furniture (Teknion and Knoll) for over 80% of the School of Management building, which allowed it to meet, in a cost-effective way, the EPA standard for IAQ (see case study in SBER Briefing: Managing Indoor Air Quality (2011)). Exelon selected low VOC carpeting, furniture, coatings, adhesives, and paints; and implemented green cleaning supplies to improve indoor air quality at no additional cost.
Reduced Liability Risks	Green buildings are associated with improved indoor environmental quality (IEQ). While mold can be found in approximately 10% of existing buildings, LEED certified projects have better indoor air quality and "substantially lower risk of facing the cost of mold-related remediation and liability", stated a 2010 report by the United Nations Environment Programme Finance Initiative.[13]	In one case in California, the employees of a newspaper sued the landlord for $10 million for failing to make repairs that allowed several types of mold to grow, which they claim caused lung and sinus infection.[14]
Improved Employee Productivity	Better indoor air quality (IAQ) and work flexibility lead to significant increases in employee engagement, satisfaction, and productivity. Lower levels of stress, fewer office distractions and interruptions from participating in alternative workplace strategies (AWS) also improve human capital outcomes. Less time commuting can translate into additional time dedicated to work. For more information see SBER Report: *Integrated Alternative Workplace Strategies* (2011).	In terms of work flexibility, SBER Member- Client U.S. GSA conducts an annual workforce survey which shows 70% of employees were more proud of their organization and 69% felt better about their well-being as a result of their participation in AWS. For more information, see SBER Report: Integrated Alternative Workplace Strategies (2011).
Reduced Absenteeism and Health Care Costs	A 2010 study by the University of Michigan reported that, "improved indoor air quality contributes to reductions in perceived absenteeism and work hours affected by asthma, respiratory allergies, depression, and stress and to self-reported improvements in productivity." The authors estimated an additional 38.98 work hours per year for each occupant of a green building.[15]	SBER Charter Member Autodesk has measured and found improvements both in employee health outcomes and productivity from moving to a LEED-CI certified office space. For more information see SBER Report *More Sustainable Leased Space* (2011)). Respected scientific studies have even asserted the benefits from improved IEQ often exceed the costs by a factor of 10 or more.[16]
Improved Ability to Attract and Retain Talent	"Green" or sustainable office space is important for attracting talent and improving employee retention. In a 2009 study of corporate users, over 60% of respondents agreed that green office space is important for current employees and 34% agreed that it is important for recruiting.[17] Finding and training new employees can be expensive as turnover costs tend to range from 25% to 200% of annual compensation depending on the sector and job category.[18]	Leading companies often directly measure employee-related impacts of green building. In a survey of its employees, SBER Charter Member Akamai Technologies, Inc. of Cambridge, MA found that 95% of employees responded favorably to its newly redesigned space, which has earned LEED-CI Silver certifiction.[19]
Increased Resilience	Sustainable buildings better adapt to the impacts of climate change, energy security, and water availability.	As part of its corporate sustainability strategy, Lend Lease has a long-term goal for all buildings to be developed and/or operated at zero net carbon with minimal water use and waste generation. In 2003, Swiss Re launched its Greenhouse Neutral Program with the main goal to reduce CO_2e emissions and energy intensity (see Section 2 of this report).

Key Driver	Description	Example
Enhanced Shareholder Value	A 2010 study reported that green buildings have, on average, higher occupancy rates than the general market (84.04% vs. 82.27%) and enjoy higher rental rates ($29.23/sq.ft vs. $27.22/sq.ft for the general market).[20] A 2008 study reported 9% higher rents for green buildings and sales prices of green buildings to be 5–10% higher compared to conventional buildings.[21] In addition, the significant cost savings from operating more sustainable leased buildings translates into higher NOI. A 2009 study by Forest reported 5.9% higher net operating income.[22]	An ongoing study involving CB Richard Ellis, the University of San Diego, and McGraw Hill Construction asserted that "sustainable buildings are likely to generate stronger returns for investors than traditionally managed properties, with owners anticipating a 4% higher return on investment (ROI), and an additional 5% increase in building value."[23] Although slower to emerge compared to tenant demand, investor demand for green buildings is increasing.

6 Rob Watson, "Green Building Market and Impact Report 2010," 2010. See http://sallan.org/pdf-docs/GB-MIR_2010.pdf.

7 GreenBiz. 2010. Regulation Eclipses Innovation as Main Driver in Sustainability. See http://www.greenbiz.com/news/2010/04/27/regulation-eclipses innovationmain- driver-sustainability#ixzz1M6DJ9jbU.

8 Craig McDonald, Sean Ivery, Claire M. Gagne, and Kif Scheuer. 2008. Greening Leased Spaces: Opportunities and Challenges. http://eec.ucdavis.edu/ACEEE/2008/data/papers/6_291.pdf (citing The White House, 2005; CRS 2007).

9 Burnham-Moores Center for Real Estate University of San Diego, CB Richard Ellis and McGraw Hill Construction, "Do Green Buildings Make Dollars & Sense?" See http://www.greenpropertyfunds.com/f/CBRE_2010_Green_Building_Study.pdf.

10 Ken Standfield, "Intangible Finance Standards: 21st Century Breakthroughs in Fundamental Analysis & Technical Analysis", Elsevier Academic Press, 2004.

11 Gresham, Smith & Partners. 2011. GS&P Jacksonville Office Earns LEED-CI Silver Certification. http://www.gspnet.com/news.php?id=217.

12 Veleva V., Googins B., Caraphina R., Mirvis P., Connolly P., Pinney C., Raffaelli R., "Weathering the Storm: State of Corporate Citizenship in the U.S. 2009", Boston College Center for Corporate Citizenship. See http://www.bcccc.net/index.cfm?pageId=2053.

13 Siemens & McGraw Hill Construction, "2009 Greening of Corporate America," 2009. See http://www.mcgraw-hillsales.com/2009_GreeningCorpAmerica.pdf.

14 McKinsey & Company, "How companies manage sustainability", McKinsey Global Survey Results, 2010. See https://www.mckinseyquarterly.com/PDFDownload.aspx?ar=2558.

15 Cone Communications, "Cone Releases 2009 Cone Consumer Environmental Survey," 2009. See http://www.coneinc.com/content2032.

16 Society for Human Resource Management (SRHM), "Green Workplace Survey," 2008. See http://www.shrm.org/Research/SurveyFindings/Articles/Documents/SHRM%20Green%20Workplace%20Survey%20Brief.pdf.

17 Carbon Disclosure Project, "What We Do", 2011. See https://www.cdproject.net/en-US/WhatWeDo/Pages/overview.aspx.

18 United Nations Environment Programme Finance Initiative. 2010. Green Buildings and the Finance Sector. www.unepfi.org/fileadmin/documents/greenbuildings.pdf.

19 AERIAS Air Quality Sciences, "Legal Issues and Guidelines." See http://www.aerias.org/DesktopModules/ArticleDetail.aspx?articleId=109&spaceid=2&subid=13.

20 Lawrence Berkeley National Laboratory, "Impacts of indoor air environment on human performance and productivity," www.iaqscience.lbl.gov/performancesummary.html.

21 S. Amanjeet, Syal M., Grady S. and S. Korkmaz, "Effects of Green Buildings on Employee Health and Productivity," American Journal of Public Health, July 15, 2010. See http://news.msu.edu/media/documents/2010/08/840514e8-0b32-4aa4-9fc8-276b688dfed4.pdf.

22 Lawrence Berkeley National Laboratory, "Cost effectiveness of improving indoor environments to increase productivity," 2011. See http://www.iaqscience.lbl.gov/performance-cost.html.

23 Milton D.K., Glencross P.M and Walters, M.D., "Risk of sick leave associated with outdoor air supply rate, humidification and occupant complaints," Indoor Air,10, 212-221.

24 Burnham-Moores Center for Real Estate University of San Diego, CB Richard Ellis and McGraw Hill Construction, "Do Green Buildings Make Dollars & Sense?" See http://www.greenpropertyfunds.com/f/CBRE_2010_Green_Building_Study.pdf.

1.4 Components of a Sustainable Operations Strategy

Based on the insights from sector research and ongoing SR Inc assistance to dozens of leading executives, SR Inc has identified five key components of a sustainable operations strategy. Leading companies target sustainability efforts across all five areas, as described below:

Vision & Governance

Executives establish a vision for the sustainability strategy, share it with external stakeholders, and set-up an organizational structure, occasionally overseen by a board-level committee that sets priorities and monitors strategy implementation.

Strategy

Based on the sustainability vision, executives define an enterprise-wide sustainability strategy, comprised of long-term strategic goals and a multi-year, milestone-based roadmap to advance those goals. The strategy also identifies key resources allocated for each goal or initiative and a methodology to evaluate gains and successes related to sustainability.

Guidance

Leaders create a formal set of guidelines, checklists, and tools to ensure the success of enterprise-wide sustainability practices. Key to the success of the sustainability practices is the development of agreed metrics and the establishment of environmental and sustainability Key Performance Indicators (KPIs), as well as processes for collecting and monitoring data for each KPI.

Executives then benchmark operational units and facilities for performance against the KPIs, identifying the highest and lowest performers and targeting resources accordingly. Many companies also set quantitative targets to improve overall performance, particularly to reduce energy costs, water consumption and waste generation.

Implementation

Companies target sustainability initiatives across their operations by identifying best practices and facilitating the implementation of those best practices to the areas of operations identified as the lower performers. SR Inc's Real Estate Leadership Council has identified that, when looking to implement real estate sustainability, companies target sustainability initiatives across two key phases: Design & Construction and Operations & Maintenance.

Some of the most common initiatives include:

- **Design & Construction:** Targeting more sustainable buildings in the acquisition process, implementing a standard more sustainable lease, using sustainable building construction standards, and obtaining LEED, ENERGY STAR and similar labeling programs.
- **Operations & Maintenance:** Establishing accountability measures, procuring renewable energy, monitoring and measuring GHG emissions, implementing enterprise energy and carbon accounting (EECA) systems to collect data and track improvement over time, improving waste management, and increasing employee engagement.

Reporting Results

Leaders regularly evaluate and report on sustainability KPIs and progress toward strategic goals, particularly through internal monthly, quarterly, or annual reporting to senior management. Externally, leaders publish a formal sustainability report on an annual basis and report to third-party verification agencies, such as CDP, GRI, and others.

Figure 4. Components of a Sustainable Operations Strategy.
Source: SR Inc research.

1.5 Overcoming Barriers to Sustainability

Despite the growing sustainability megatrend and demonstrated business case for sustainability, various barriers still hinder the development of a sustainable operations strategy. Table 1.1 summarizes the key barriers for each strategy component. and provides solutions to overcome them.

Table 1.1. Barriers to a sustainable operations strategy.

Source: SR Inc research & analysis.

Component	Barriers	Solutions
Vision & Governance	• Limited time horizon for occupying assets • Limited control over assets • Competing C-suite priorities • Organizational silos	• Develop the business case • Secure C-suite champions • Create core, cross-functional team • Adapt existing structure • Adopt essential policies
Strategy	• Perceived lack of need for sustainability strategy by senior executives	• Benchmark peer leaders, set goals • Secure a seat at strategy table • Create value beyond cost-savings • Budget for sustainability
Guidance	• Lack of KPIs, measurement and data management system • Limited control over assets	• Implement KPIs, data management • Meter and sub-meter • Benchmark performance • Implement green lease • Adopt sustainability guidelines (green lease, LEED-CI/ BREEAM)
Implementation	• Competing priorities for capital • Assets largely leased • Limited control over assets • Lack of time, expertise	• Recognize and reward employees • Implement life cycle cost assessment
Reporting Results	• Minimal stakeholder engagement • Legalistic approach to disclosure • Lack of voluntary disclosure standards	• Engage stakeholders • Develop a culture of transparency and accountability • Measure and verify • Best practice sharing

1.6 Global Trends in Sustainability

An ever increasing number of companies are making corporate commitments to sustainable operations, and some also provide publicly-stated environmental targets. "The only way to continue growing and continue being a successful business is to treat sustainability as a key business lever in the same way that you treat marketing, finance, culture, HR, or supply chain," says Santiago Gowland, Vice President of Brand and Global Corporate Responsibility at Unilever.

Strategy

Leading companies are involving senior executives in the development and implementation of their sustainability strategies for operations. For example, in a 2011 TRIRIGA study, 41% of sustainability "Achievers" compared to 27% of sustainability "Stragglers" reported that executive management was involved in the development of their organization's sustainability strategy.

Despite the increasing integration of sustainability into business strategy, a McKinsey study found that:

- Most companies still take a "fragmented, reactive approach — launching ad hoc initiatives to enhance their 'green' credentials, to comply with regulations, or to deal with emergencies — rather than treating sustainability as an issue with a direct impact on business results."[25]
- Just 36% of executives in the survey reported having a strategic approach to sustainability with a defined set of initiatives. Such ad-hoc initiatives, rather than enterprise-wide strategy, prevent many businesses from capturing the full long-term benefits from their sustainability programs.

Goals

In their pursuit to integrate sustainability into business operations, companies are setting organization-wide goals. While the most common corporate sustainability goals are short-term, many are establishing ambitious long-term goals with strategic value.[26]

Leading companies also commit to regular internal and external reporting on their progress toward achieving their goals. Organizations that achieve their sustainability goals typically invest in three priority activities to support green initiatives:

1. Improved facility energy efficiency (91%)
2. Improved equipment servicing and maintenance (77%)
3. Improved space utilization (75%)

The above three goals help companies capture value because they offer the greatest potential for revenue growth and return on capital investment.[27]

While energy efficiency and waste management continue to be the core part of sustainability strategies, evidence is beginning to emerge about a shift in strategic priorities for executives with increasing attention on employee health, well-being and productivity.

A Siemens and McGraw Hill survey found that among companies which measure the "soft-side" of sustainability success, 90% measure worker productivity. These companies report that productivity "promises to have the greatest financial impact of all green/sustainability benefits."

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[25] Bonini S. and S. Gorner, "The Business of Sustainability." McKinsey Global Survey Results, McKinsey & Company, 2011. See http://luenymorell.files.wordpress.com/2011/10/mckinsey-the-business-of-sustainabilityoct-2011.pdf.

[26] Boston Consulting Group, "The Business of Sustainability: Imperatives, Advantages, and Actions," September 2009. See http://www.bcg.com/documents/file29480.pdf.

[27] McKinsey Quarterly, "The Business of Sustainability," August 2011. See http://www.mckinseyquarterly.com/The_business_of_sustainability_McKinsey_Global_Survey_results_2867.

Initiatives

In general, companies with successful sustainability strategies for operations tend to focus on the following categories:

- Energy efficiency
- Recycling and waste management
- Products and supply chain
- Healthier building standards
- Stakeholder engagement
- Partnerships with NGOs or voluntary government programs

Examples of specific initiatives are as follows:

- Installing high-efficiency lighting
- Sourcing environmentally-friendly materials and resources (carpet, paint, furniture, paper, electronic equipment)
- Upgrading HVAC systems
- Implementing building automation controls
- Improving metering and submetering
- Installing on-site renewable energy generation capacity
- Monitoring and optimizing utility bills
- Implementing water conservation measures (low-flow fixtures, gray water recycling)
- Purchasing renewable energy credits (RECs)
- Purchasing and implementing sustainability management/monitoring software

Most companies focus on initiatives with the lowest initial costs and/or shortest payback period, as decision makers are more likely to support these initiatives first.[28] Leaders have begun to employ innovative approaches to financing options, leveraging savings from projects with short paybacks in order to move onto projects which can generate more long-term value. Leaders are also packaging short- and long-term payback projects together into a "portfolio" of projects so that the portfolio meets the payback requirements even though each of the projects individually might not.

See SR Inc Report *Financing Portfolio-Wide Energy Efficiency Upgrades* and SBER RLC Briefings 2*7 Leased Office Energy Conservation Measures (ECMs) and Regional Cost Variation of Eleven Top Energy Conservation Measures* for more detail on the strategies to prioritize energy and other sustainability measures.

[28] Siemens & McGraw Hill Construction, "A Path to Achieving Higher Building Performance," March 2012.

Enablers

There are three principle factors enabling leading executives to hurdle the barriers and create a cogent strategy that resonates with the board, investors, customers, and talent:

1. Budget
2. Dedicated staff
3. Technology

Establishing a dedicated budget for sustainability investments remains a challenge for most companies.

To institutionalize sustainability efforts, a growing number of companies are establishing a dedicated sustainability position or team, as well as cross-functional, organization-wide teams to address sustainability issues. Such teams are a critical part of a company's governance structure and the successful execution of a sustainability strategy.

A growing number of companies are beginning to utilize enterprise-class technology as a critical enabler for a comprehensive sustainable operations strategy. Leading companies use advanced data management technologies to better measure, manage, and benchmark sustainability performance across the enterprise. The data management technologies provide real time data in areas including project management, ongoing maintenance, project planning and evaluation, energy use and analysis, and space management.

1.7 Trends in SBER Member-Client Performance

The analysis from SBER Member-Client Diagnostic interviews clearly demonstrates that an increasing number of Member-Clients are deploying a comprehensive strategy to help them better utilize resources and manage a commitment to greater sustainability across business units.

SR Inc conducts a confidential assessment for interested Member-Clients each year utilizing SR Inc's proprietary SBER Diagnostic tools that enable SR Inc to provide a sector-specific SBER Assessment each year. The SBER Assessment covers five areas including vision and governance, strategy, guidance, implementation, and reporting results. The results from SBER Member-Clients are compiled and compared on a rolling 12-month basis. Member-Clients are compared against their peers across Corporate Operations or in one of four sectors: Information and Communication Technologies (ICT), Insurance and Financial Services, Real Estate Investment Advisers, and Real Estate Owner-Operators.

Figures 4.1 through 10 illustrate the results of the Component Assessment as of December 2012. Note that the areas of vision and governance are evaluated together as one component in the SBER Assessment. Figure 4.1 provides a snapshot of the SBER Component Rating Index in which companies' individual scores are compared against one another. The figure also identifies the levels at which companies are categorized as Leader (scoring higher than 75%), Advanced (scoring 65-75%), and Committed (scoring 50-65%). Figure 3 shows that the majority of Member-Clients score above average, with most reaching the Committed category. A small number of SBER Member-Clients have demonstrated strong performance across all five component areas, placing them into the Leader and Advanced categories.

Figure 4.1. SBER Component Rating Index (theoretical maximum value=100%; Low=6%, Average=36%, High=87%).

Source: SR Inc research.

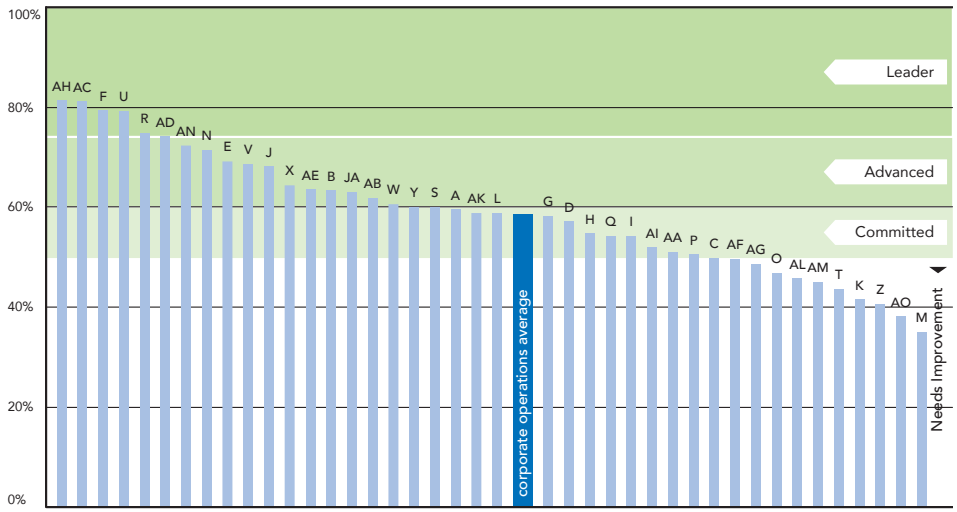


Figure 4.2 provides an example of the SBER Composite Index. The Composite Index compares a company to the 12-month rolling average of all members of the same cohort who have participated in the SBER Assessment. As shown in Figure 4.1, the SBER Composite Index for Corporate Operations (at 47%) falls undr the Needs Improvement category, reflecting the limited investment across all five component areas for most Member-Clients.

Figure 4.2. SBER Composite Index (theoretical maximum value=100%).

Vision and Governance
Strategy
Guidance
Implementation
Reporting Results

Source: SR Inc research.

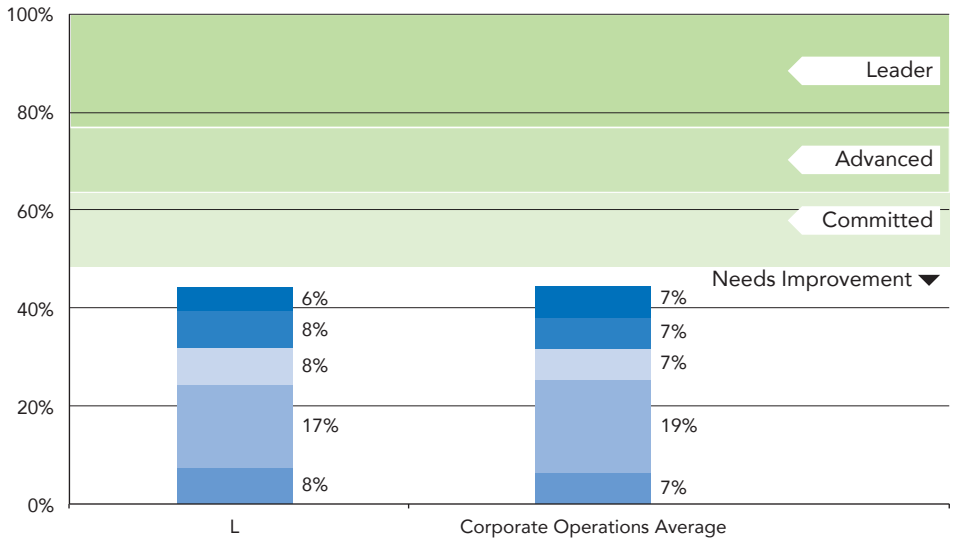


Figure 5 shows the SBER Component Ratings, which compare an individual company's results within each component category alongside the 12-month rolling average for each cohort of SBER Member-Clients.

Figure 5. **SBER Component Ratings (theoretical maximum value for each component=100%)..**

Unweighted Company Component Rating
Unweighted SBER Component Average Rating

Source: SR Inc research.

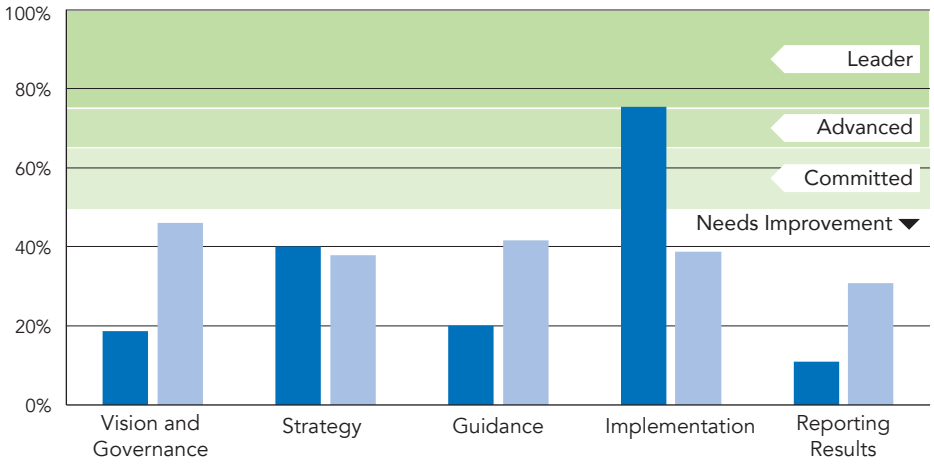


Figure 6 illustrates Corporate Operations performance for the Vision & Governance component. The majority of Member-Clients are above average in terms of establishing a vision and governance structure for their sustainability strategies, with the highest number falling under Advanced, followed by Leader and Committed. However, a number of Member-Clients still fall into the Needs Improvement category, reflecting a limited sense of a enterprise-wide vision or a lack of centralized governance for sustainability initiatives. Member-Clients seeking guidance on establish-

ing a strong vision statement or on leading examples of a strong governance structure should consult the SR Inc *Global Guidebook on Sustainable Real Estate* (particularly the materials in the "Approach to Sustainability" section).

Figure 6. **Member-Client Breakout for Vision & Governance.**

Source: SR Inc research.

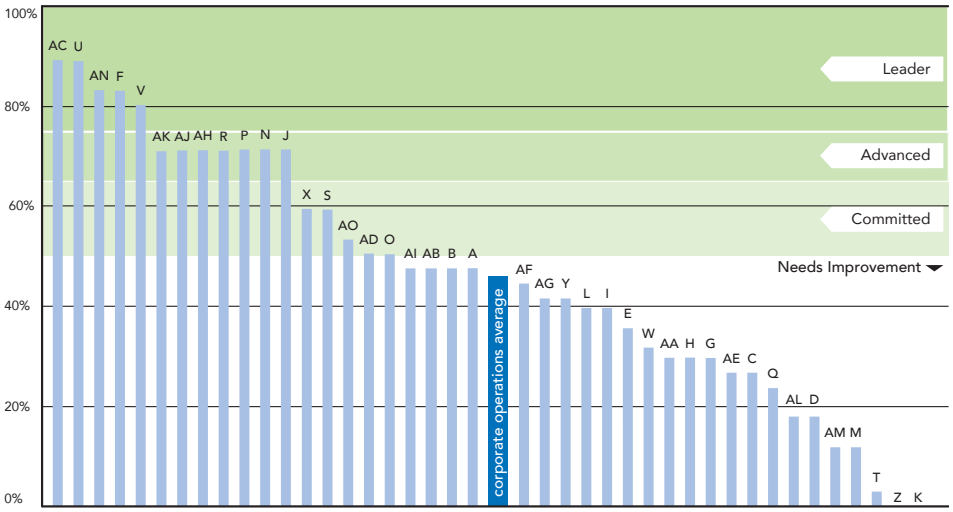


Figure 7 illustrates performance in the Strategy component of the SBER Assessment. A high number of SBER Member-Clients have established an above average sustainability strategy, but the majority still lack comprehensive thinking about sustainability strategy. Seven companies scored under the Leader and Advanced levels, meaning they have a strategy in place to achieve published goals and have established an implementation roadmap with information on initiatives, resources, and milestones.

Figure 7. **Member-Client Breakout for Strategy.**

Source: SR Inc research.

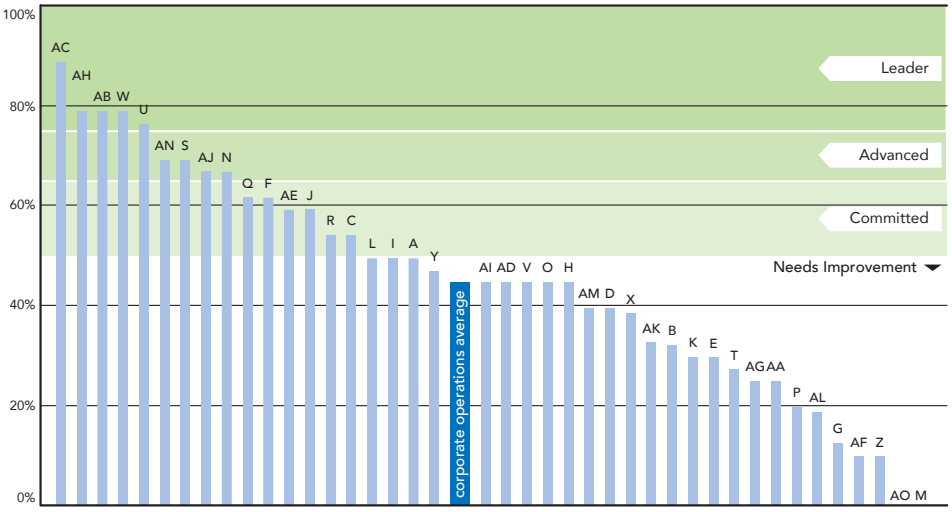


Figure 8 illustrates performance in the Guidance component area. This figure shows that a strong majority of Member-Clients scored well with regard to internal guidance to support the sustainability strategy. The highest

number of companies fall under the Committed category, followed by Leader, and then Advanced. Leading Member-Clients have established guidelines, checklists, tools, quantitative targets for environmental resources, and benchmarking across facilities to track performance in pursuit of their sustainability strategies.

Figure 8. **Member-Client Breakout for Guidance.**

Source: SR Inc research.

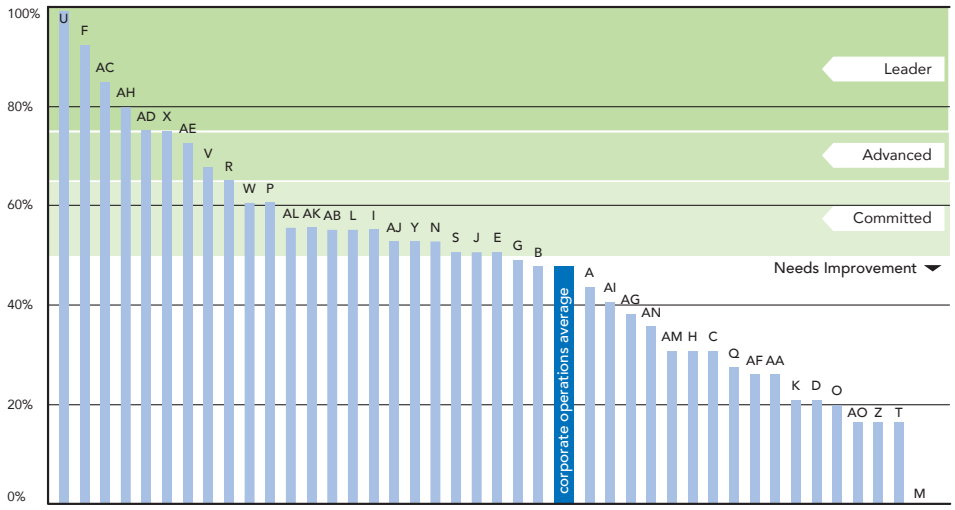


Figure 9 illustrates the Member-Client breakout for the Implementation component of the SBER Assessment. The Implementation component covers the most visible elements of a sustainability strategy, such as energy efficiency, waste and water management, data centers, and employee or occupant engagement. Most companies have strong performance in particular Implementation areas, including data center and IT equipment, procurement, and sustainable leasing, but few lack performance across all areas. A common weakness for all SBER Member-Clients is the lack of training for employees.

Figure 9. **Member-Client Breakout for Implementation**

Source: SR Inc research.

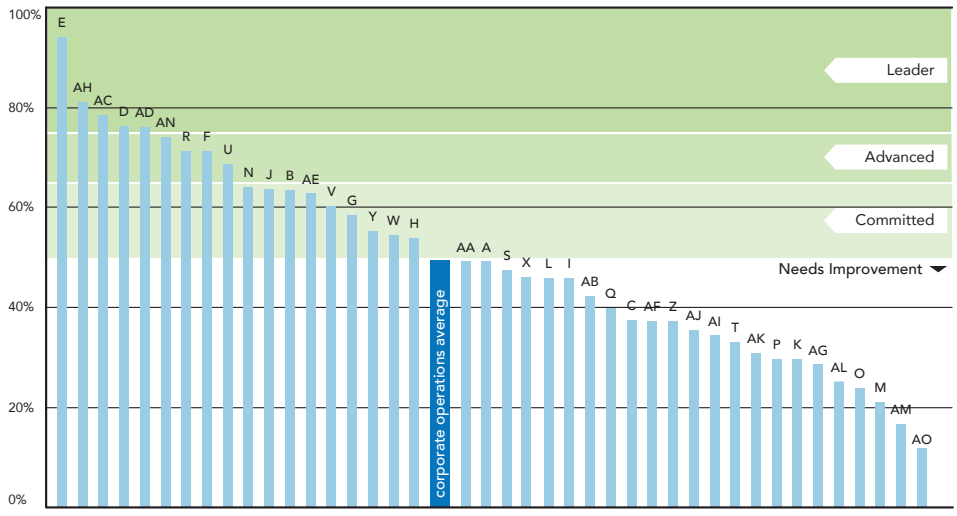
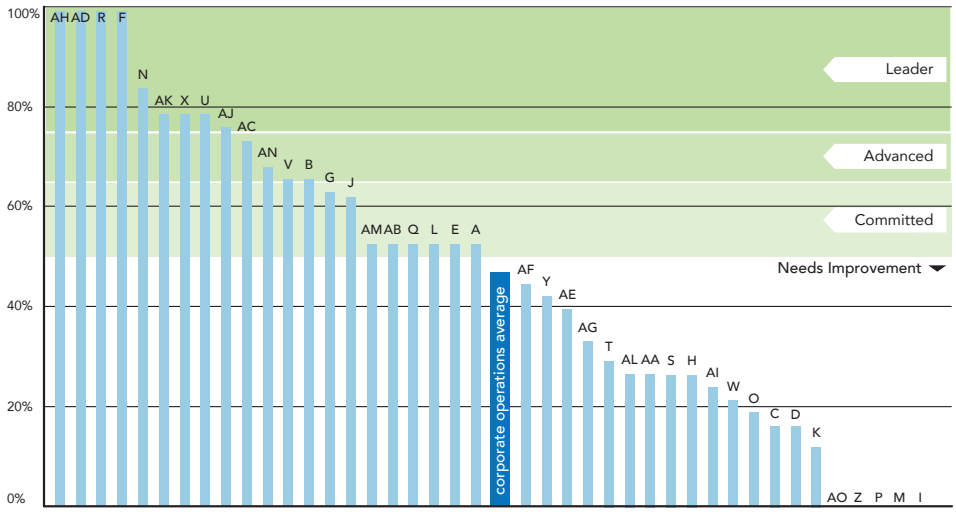


Figure 10 illustrates performance in the Reporting Results component of the SBER Assessment. A majority of Member-Clients are above average in terms of reporting the results of their sustainability strategies both internally and externally. Member-Clients with the strongest performance in Reporting Results emphasize using sustainability KPIs to assess the performance of employees, divisions, and contractors and regularly report on this performance to senior management and/or the Board. Leaders also practice robust external performance, publishing robust environmental performance data for themselves and their supply chain via third-party reporting schemes, such as the Carbon Disclosure Project (CDP), Global Reporting Initiative (GRI), and Global Real Estate Sustainability Benchmark (GRESB).

Figure 10. **Member-Client Breakout for Reporting Results**

Source: SR Inc research.



Section 2: Sector Best Practice

This section includes three case studies to illustrate why and how leading companies have moved toward enterprise-wide sustainability strategies for operations. Featured companies are The Hartford, Swiss Re, and Lend Lease.

2.1 The Hartford

Vision & Governance

In 2007, The Hartford issued a centralized ***Statement on Climate Change***, a formal policy which recognizes that as an insurer, investor, employer, property owner, and responsible corporate citizen, climate change is of real and increasing concern, and outlines corporate-level commitments to environmental performance.[29]

Also in 2007, The Hartford convened a standing **Committee on Climate Change**, overseen by the Executive Leadership Team (ELT) which includes the general counsel, CEO, CFO, CRO, chief investment officer, and other company executives.[30]

PROFILE

The Hartford Financial Services Group, Inc. is one of the largest investment and insurance companies in the U.S. The company employs over 26,000 people in locations in North America, Europe, Asia, and South America. In 2010, the company generated almost $22.4 billion in revenue from investment products, individual life, group life, group disability, property, and casualty insurance products.[26] The Hartford owns almost two million square feet of RE in the greater Hartford, Connecticut area. In addition, the company leases approximately five and a half million square feet in the U.S. and abroad. The Hartford is recognized as one of the global leaders in sustainability in the financial services and insurance sectors as affirmed in major sustainability indexes.[27]

[29] The Hartford, "Statement on Climate Change." See http://www.thehartford.com/utility/about-thehartford/corporate-social-responsibility/hig-environment/statement-on-climate-change/.

[30] The Hartford Financial Group, "Our responsibility – our future: Social responsibility at Hartford," 2009. See http://www.thehartford.com/higfiles/pdf/Sustainability_Report.pdf.

[31] The Hartford, Corporate Social Responsibility, 2011. See http://www.thehartford.com/utility/about-thehartford/corporate-social-responsibility/hig-environment/.

[32] This includes moving the vehicle fleet from six-cylinder engines to four-cylinder engines.

Strategy

The company's environmental performance initiatives are driven by the Statement on Climate Change. The Hartford's **operations management team** developed a unified strategy to track and implement those initiatives.

The Hartford's strategy comprises the following key elements:

- A **Green Computing strategy**, with a goal of meeting business needs while improving the overall efficiency of computing services, lowering operating and capital costs, and minimizing damage to the environment
- Programs to **increase the efficiency of its vehicle fleet**, in addition to incentivizing the use of vanpools and public transportation for employees
- A capital allocation strategy that involves spending over $20 million for its sustainability program (see Table 4). M**ost capital will be allocated for energy efficiency projects,** but other initiatives such as RE consolidation and IT hardware upgrades will require the allocation of employee time and possibly outside consultants

Alternative Workplace Strategy:

The Hartford offers a range of flexible work arrangements to employees as a part of its **Remote Worker Program (RWP)**. The RWP aims to reduce space occupancy and improve employee satisfaction, offering employees:

- Remote work
- Flex-time

- Compressed or reduced work weeks
- Job share for certain positions

Guidance

Key Performance Indicators (KPIs):

The Hartford has reported its GHG emissions to the **Carbon Disclosure Project** since 2007 and measures Scope 1, 2, and 3 emissions for facilities, employee and business travel, and vehicle fleet operations.

Targets:

The Hartford set a **target of 15% GHG emission reductions by 2017** (using 2007 as a baseline), which it achieved in 2010. The company is currently developing a strategic plan for meeting new GHG reduction targets and has engaged an outside consultant to improve energy efficiency in all company buildings and operations.

Implementation

The Hartford has undertaken numerous initiatives to improve enterprise-wide sustainability. Table 3 provides an overview of these initiatives and lists the investment, monetary savings, and payback period for the projects.

Table 2. Emissions reduction initiatives active (planning and/or implementation phase) in 2010 at The Hartford.

Source: Carbon Disclosure Project, 2011.

Activity Type	Description of Activity	Annual Monetary Savings ($)	Investment Required ($)	Payback Period
Behavioral change	Work from Home/Work from Anywhere/Remote Worker	2,160,000	0	<1 year
Energy efficiency: building services	Real estate consolidation	2,100,000	0	<1 year
Energy efficiency: building services	Office building energy efficiency upgrades	4,200,000	18,000,000	>3 years
Transportation: fleet	Fleet vehicle efficiency - shift to higher MPG fleet vehicles as leases expire[28]	2,400,000	0	<1 year
Process emissions reductions	Computer Desktop power management	600,000	400,000	<1 year
Process emissions reductions	IT data center computing equipment efficiency upgrades: virtualization, solid state storage, VoIP	850,000	2,500,000	1-3 years

[33] This includes moving the vehicle fleet from six-cylinder engines to four-cylinder engines.

Table 3. The Hartford's Implementation by Category.

Source: The Hartford's Corporate Responsibility Reports 2009, 2011

Category	
Sustainable Building Construction	• Participates in the EPA's ENERGY STAR program • Integrates LEED standards in the construction of its new office building in Windsor, Connecticut • Incorporates day lighting, high efficiency HVAC systems, insulated glass, water efficient design, and efficient layout and gradation
Energy Efficient Computing	Focuses on three measures: 1. IT hardware energy efficiency 2. Data center operations 3. Sustainable computing environment
Employee-led Initiatives	• Gathers ideas from employees on how to cut costs and create sustainable savings as part of its "Go for the Green" campaign
Waste Management	• Composts restaurant food waste and recycles oils, halons, and refrigerants • Reuses doors, cabinets, carpet, office equipment, surplus supplies and furniture via donation • Recycles paper, glass, aluminum, and plastic materials
Lighting	• Uses ENERGY STAR products and day lighting
HVAC	• Installs variable-frequency drives, energy management systems, solar panels, fuel cells, and high R-value window tinting in major facilities
Sustainable Maintenance Practices	• Requires green cleaning supplies, recycled paper products, automatic soap and paper towel dispensers, and organic fertilizer • Uses integrated pest management control strategy
Water Efficiency	• Xeriscaping, using well water, lake water, and retention ponds vs. city water, low-water consumption devices, automatic faucets, waterless urinals at most sites [29]
Commuting	• Provides electric vehicle charging stations (EVCS) at Hartford, Simsbury, and Windsor, CT campuses • Updated its homeowner's insurance policies to include home-based EVCS as covered property for new and existing customers [30]
Employee Rewards	• Rewards business managers for helping the company meet emissions reduction targets including financial compensation, recognition through internal communications, and paid trips to gala events

Reporting Results

In 2010, the Hartford **reached its 15% GHG reduction goal** (see Table 6). Since the target was reached six years early, the company's Environment Committee is currently working to formulate new GHG reduction targets.

Table 4. The Hartford's scope 1 and 2 emissions in 2007 (baseline) and 2010.

Source: SR Inc research; Carbon Disclosure Project, 2011.

	Scope 1 Emissions (Metric Tons CO_2e)	Scope 2 Emissions (Metric Tons CO_2e)
2007	36,467	91,507
2010	30,889	76,737
Reduction	15.3%	16.1%

[34] The Hartford Financial Group, "Our responsibility – our future: Social responsibility at Hartford," 2009. See-http://www.thehartford.com/higfiles/pdf/Sustainability_Report.pdf.

[35] Coulomb Technologies, "Hartford Makes it Easier to Drive Electric Cars," April 2011. See http://www.coulomb-tech.com/blog/ev-charging-stations/hartford-press-release-conn-hq-joins-chargepoint-network/.

The Hartford publishes a GRI Level C Sustainability Report through its Corporate Social Responsibility website. The company is also a member of the Dow Jones Sustainability Index (DJSI) and reports annually to the Carbon Disclosure Project (CDP).

2.2 Swiss Re

Vision & Governance

Swiss Re lists corporate sustainability as a key guiding principle for the company and broadly defines it as **"a business approach to create long term shareholder value by embracing opportunities and managing risks deriving from economic, environmental, and social development."**[36]

PROFILE

Swiss Re, one of the world's largest reinsurers and a leader in risk securitization and trading, operates in over 25 countries. It offers reinsurance products for property, liability, motor, accident, agriculture, engineering, marine, life, and health products, among others. Swiss Re also provides insurance-based finance solutions, asset management, and advisory service. The Switzerland-based company had about 10,500 employees globally in 2010. Swiss Re has been recognized as a leader in the drive towards sustainability within the insurance sector as reflected by its leading position on major sustainability indexes.[32]

At the highest level, **Swiss Re's commitment to sustainability is fully integrated in the Group Code of Conduct section on business ethics** which defines the governance and management of the company. A committee of the Board of Directors is tasked with overseeing implementation of the corporate responsibility commitments.

Strategy

In 2010, Swiss Re set the following **strategic goals:**

- Further build and deepen relationships with public-sector clients through the Global Partnerships business function
- Complete further regional studies to help clients devise cost-effective adaptation strategies to climate change, based on the Economics of Climate Adaptation methodology

[36] Swiss Re, 2010 Corporate Social Responsibility Report, June 2011. See http://www.swissre.com/corporate_responsibility/
2010_Corporate_Responsibility_Report.html.

[37] Dow Jones Sustainability Index, "Swiss Re," 2009. See http://www.sustainability-index.com/djsi_pdf/Bios10/SwissRe_10.pdf.

- Continue to embed Sustainability Risk Framework into core business operations and advance the insurance industry's adoption of such risk management practices
- Maintain 50.6% reduction in CO2 emissions per employee under post-crisis business conditions and increase gains in energy efficiency to 32%, both measured against 2003 baseline
- Leverage its comprehensive risk expertise to support communal capacity building projects, and further enhance employee engagement worldwide
- Foster an inclusive corporate culture that enables diversity and ensures equal opportunities across the Group, leveraging the competitive advantage of a diverse workforce
- Focus on minimizing paper use, water consumption, and waste generation

Guidance

Quality standards are defined centrally at the Swiss Re headquarters in Zurich and then deployed at all locations globally. Swiss Re also places great **emphasis on supply chain sustainability**, prioritizing suppliers that have environmental policies in place or a certified environmental management system, such as ISO 14001 or Eco-Management & Audit Scheme (EMAS).

Data and KPIs:

Since 2009 the company has used an advanced**, web-based platform for environmental reporting**. Swiss Re calculates its GHG emissions using the Greenhouse Gas Protocol guidelines, verified by Pricewaterhouse-Coopers.

Implementation

Swiss Re has implemented the following key measures as part of its sustainability strategy:

Table 5. Swiss Re's Implementation by Category.

Source: Swiss Re's 2010 Corporate Responsibility Report

Category	Initiatives
Renewable Energy & Offsets	Implemented pilot projects for the deployment of renewables at Munich, Paris, Rome, and Zurich offices
	Aims to use 100% renewable power at all locations where technically feasibly by 2013 [43]
	Between 2003 and 2009 bought and retired high quality Voluntary Emissions Reductions (VERs) for 338,000 tons of CO_2e
	Bought additional VERs for 40,000 tones of CO_2e from three small run-of-river hydropower stations in the Sichuan province of China [44]
Energy Efficiency	Implements ongoing energy efficiency improvements through its service providers
	Concentrates back-office tasks in fewer locations to reduce energy intensity
Water and Waste	Reduces paper use by encouraging: • Scanning of documents • Double-sided printing • Fewer external publications
Building Certification	Increased number of MINERGIE certifications for its offices in Switzerland

Reporting Results

Swiss Re communicates the progress of its Greenhouse Neutral Program externally by **disclosing emissions data in the company's Corporate Responsibility (CR) Report**, published annually since 1998. The company is **a member of Dow Jones Sustainability Index** (DJSI World and STOXX) and **reports to the Carbon Disclosure Project (CDP)**. It is listed on the Leadership Index of the CDP.

[38] Swiss Re, "2010 Corporate Responsibility Report: Committed to a Sustainable Value Creation," 2011. See http://media.swissre.com/documents/Swiss_Re_2010_CR_Report.pdf.

[39] Swiss Re, "2010 Corporate Responsibility Report: Committed to a Sustainable Value Creation," 2011. See http://media.swissre.com/documents/Swiss_Re_2010_CR_Report.pdf.

2.3 Lend Lease

Vision & Governance

Lend Lease's Board has established a chartered **Sustainability Committee** and takes a regional approach to implementation by appointing Regional Heads of Sustainability. Each Regional Head has oversight and reporting commitments to the Board, as directed by the Group Head of Sustainability.[40] All offices adhere to the **Lend Lease Global Environmental Management System**, meeting the requirements of ISO 14001.[41]

Strategy

In 2007, the Global Sustainability Group worked to align the company's social, environmental, and financial goals by identifying **23 Sustainability Aspirations.**[42]

Under the Sustainability Aspirations, **Lend Lease has set specific goals**, including the following:[43]

- Environmental considerations inform all investment decisions
- All office occupancies achieve independently assessed green ratings
- All buildings Lend Lease develops and/or operates are, as a minimum, zero net carbon, water, and waste
- Spaces will create a flexible and diverse workplace

PROFILE

Lend Lease is an international leader in project management and construction. The company owns and operates a diverse range of businesses in more than 30 countries, with regional businesses in the United Kingdom & Ireland; Continental Europe, Middle East & Africa; Asia; Australia; and the Americas. It employs over 10,000 people. Using industry best practices, Lend Lease creates high quality, sustainable property assets, having a significant impact on the global built environment. [39]

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[40] Lend Lease, Sustainability, Our Approach, 2011. See http://www.lendlease.com/en/Group/Lend-Lease/Worldwide/Responsibility/our-approach.aspx.

[41] Lend Lease, "Sustainability," 2011. See http://www.lendlease.com/sustainability/index.html#/environmentdetail.

[42] Lend Lease, "Lend Lease View (Environment)," 2008. See http://www.lendlease.com/sustainability/pdf/LendLeaseView%28Environment%29.pdf.

[43] Lend Lease, "Sustainability Aspirations," 2011. See http://www.lendlease.com/Group/Lend-Lease/Worldwide/Responsibility/our-approach~/media/Group/Lend%20Lease%20Website/Worldwide/Documents/Responsibility/DOWNLOAD%20FILE%20-%20Sustainability%20Aspirations.ashx.

[44] Lend Lease, "About Lend Lease," 2011. See http://www.lendlease.com/en/Group/Lend-Lease/Worldwide/about-us

Guidance

Lend Lease's **Environmental Policy** emphasizes three key strategy areas: atmosphere & climate change, land use and biodiversity, and water, waste, and the built environment. The company has also established a **Green Office Action Plan, Responsible Investment Property Policy**, and **Corporate Metrics Reporting Guidelines** for environmental performance.[45]

Data and KPIs:

The company has defined **environmental, social, and financial KPIs** related to sustainability and gathers information annually for each of them. Lend Lease's environmental indicators include over 78 environmental metrics and 69 supporting environmental attributes (see Table 8).[46]

Table 6. Environmental sustainability items measured by Lend Lease.
Source: Lend Lease, 2011.

Metrics Related To:			
Atmosphere & Climate Change	Land & Biodiversity	Water	Waste
• Electricity & natural gas use • Other energy purchased (Heating Oil, Steam, Petrol, Diesel) • Refrigerant use • On-site power generation • Employee business travel – air, taxi and company vehicle travel • Emissions from waste • Embodied emissions from products and materials	• Materials consumption (timber, concrete, steel etc) • Environmental site condition (ecological significance) of land prior to our activity • Timber from sustainable and certified sources	• Potable water consumption (offices and assets only) • Non-potable water consumption (offices and assets only) • Black and grey water recycling (office, assets, or projects)	• Total waste generation (projects, offices, and assets) • Recycled waste (projects, offices, and assets) • Landfill disposed waste (projects, offices, and assets) • Soils – contaminated and uncontaminated

Benchmarking:

Lend Lease has **developed a streamlined, web-based management reporting tool called "Insight"** to provide a centralized database that holds all reporting data. The company uses the tool to:

- Collect and share tenant environmental data
- Establish the company baseline
- Benchmark facilities
- Set appropriate initiatives to improve environmental performance

[45] Lend Lease. See http://www.bovis.co.uk/sustainability/pdf/BestPracticeSustainabilityPlan_FY10.pdf.
[46] Lend Lease, Sustainability Plan FY2010. See http://www.bovis.co.uk/sustainability/pdf/BestPracticeSustainabilityPlan_FY10.pdf.

In addition, Lend Lease **advocates for the development of common international GHG emissions metrics for the construction and real estate sectors**.

Targets:

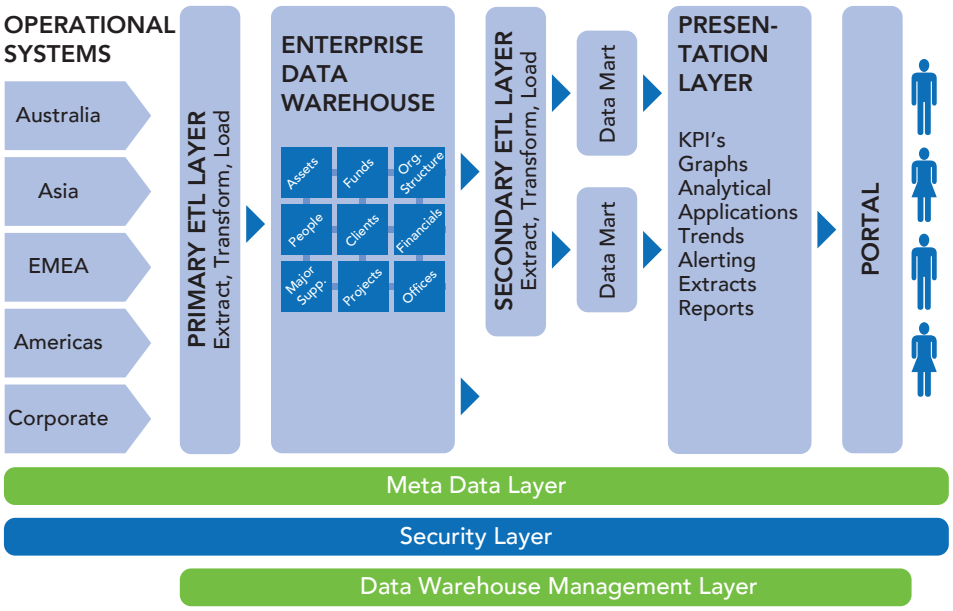
The business units establish ambitious targets in their respective **Business Unit Sustainability Plans**, based on the established Sustainability Aspirations and Global Sustainability Group framework. These are aligned with corporate sustainability vision, policies, and objectives and approved by the Global Head of Sustainability.[47]

Implementation

Lend Lease has invested in smart systems to develop **automated data collection from internal and external sources** (including suppliers) and streamline processing and presentation of the data to users (see Figure 13).

Figure 11. Information and knowledge flow at Lend Lease.

Source: : Lend Lease, July 2011.



Currently, the company is pursuing a few key strategic initiatives to improve performance throughout its operations. Current initiatives include:

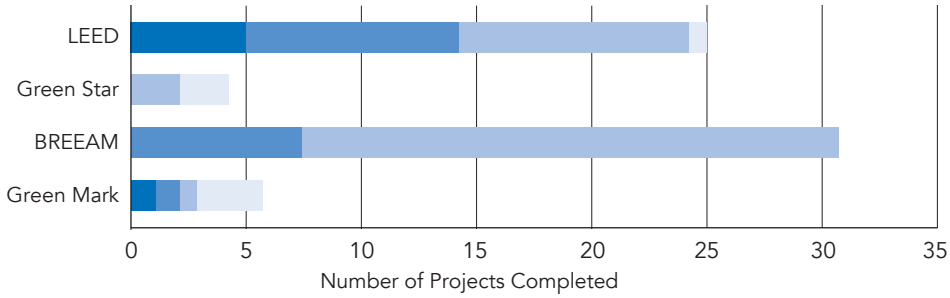
- Leveraging data from its first **Global Ecological Footprint Assessment** in December 2009 to target resources more strategically

[47] Lend Lease, Sustainability Performance, 2011. See http://www.lendlease.com/sustainability/index.html#/direction-detail-continued.

- Improving its **Supply Chain Management System48**
- **Certifying a greater number of assets according to green rating systems** (LEED, Green Star, Green Mark, BREEAM, and CASBEE), as shown in Figure 12
- **Providing training for existing managers** and recruiting trained professionals.
- Implements **Green Office Guides** which are integrated into the Environmental Management System and are subject to inspections and audits[49]

Figure 12. Lend Lease green building projects completed in 2010.

Source: Lend Lease, Sustainability Graphs, 2011.



Key	LEED	Green Star	BREEAM	Green Mark
	Platinum	6 Stars	Outstanding	Platinum
	Gold	5 Stars	Very Good /Excellent	Gold Plus
	Silver	4 Stars	Good	Gold
	Certified		Pass	Certified

Reporting Results

The **Sustainability Executive within each region reports quarterly to the Global Sustainability Group regarding sustainability metrics and progress of Sustainability Business Plans**. Lend Lease reports externally on its environmental compliance and performance via the following:[50]

- Annual submission to Dow Jones Sustainability Index (DJSI)
- Annual submission to Carbon Disclosure Project
- Lend Lease Annual Report
- Lend Lease Sustainability Microsite
- Responds to questions from investors and sector analysts
- Reports and discloses GHG emissions and water use data

[48] Lend Lease. See http://www.lendlease.com/sustainability/index.html#/environment-detail-continued.

[49] Lend Lease, Sustainability, 2011. See http://www.lendlease.com/sustainability/index.html#/environment-detail.

[50] Lend Lease, Performance, 2011. See http://www.lendlease.com/sustainability/index.html#/environment-detailcontinued.

Figure 13. Reduction in energy use in Lend Lease's occupied offices (FY2008 – FY2011).

Asia
Americas
EMEA
Australia

Source: Lend Lease, Sustainability Graphs, 2011.

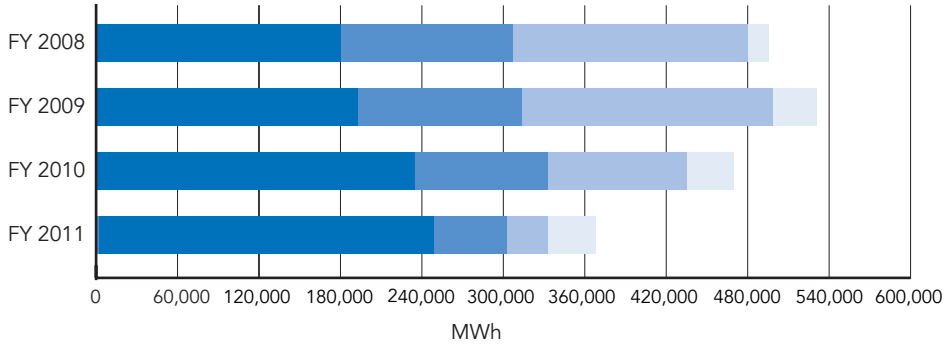


Figure 14. GHG emissions by region (FY2008 – FY2011).

Asia
Americas
EMEA
Australia

Source: : Lend Lease, Sustainability Graphs, 2011.

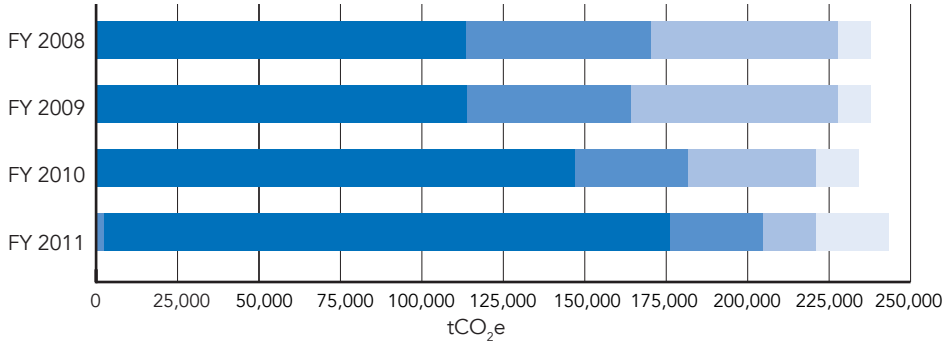
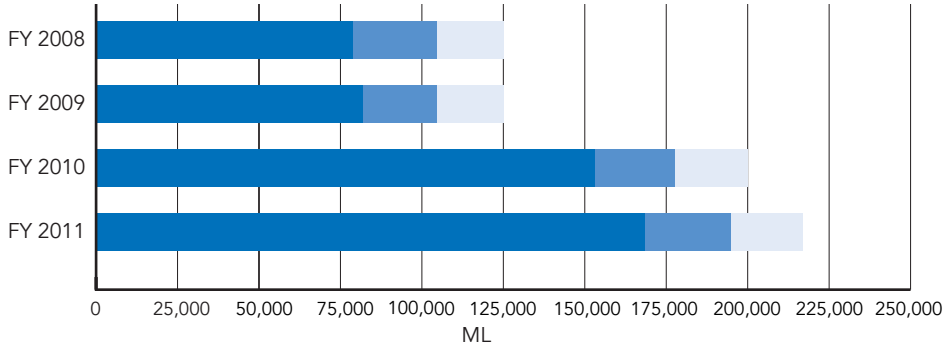


Figure 15. Water use by region (FY2008 – FY2011).

Asia
Americas
EMEA
Australia

Source: Lend Lease, Sustainability Graphs, 2011.



Section 3: SBER Member-Client Case Studies

This section features two SBER Member-Client case studies to provide in-depth insights and lessons learned from executive leaders who are successfully advancing sustainability strategies for operations. Member-Clients profiled include SAP and Bentall Kennedy.

3.1 SAP: Sustainability Incorporated into Business Strategy

Vision & Governance

At SAP, **business sustainability is very specifically defined as "the ability to increase short- and long-term profitability by holistically managing economic, social, and environmental risks and opportunities**," shared Dr. Peter Graf, SAP's Chief Sustainability Officer. SAP has committed to a vision for sustainability which includes as the following objectives:

- Reducing energy
- Reducing water
- Reducing material consumption
- Reducing waste
- Reducing commuting impact
- Promoting renewable energy

SAP's intent is to be an **exemplar enabler and influencer of business sustainability**. This includes the environmental impact SAP has through:

- Facility operations and management
- Related internal behavior of the company (internal sustainability impact)
- Indirect environmental impact (external sustainability impact) through its innovative products that help other companies operate more sustainably

Organizational Structure:

The Global Facilities Management team (GFM) (illustrated in Figure 25) did not have to make the business case for sustainability to the C-suite. While considerable grassroots sustainability efforts were underway inside the RE group, the endorsement came from the top executive level.

Figure 16. SAP offices (from top left clockwise): Walldorf, Germany; Bangalore, India; Sao Leopoldo, Brazil (LEED Gold); Newtown Square, PA (LEED Platinum).

Sources: SAP & inhabit.com.

PROFILE

SAP, a leading provider of enterprise software applications, has a global portfolio of approximately 330 leased and owned facilities as well as 200 computing and communication rooms across 70 countries. SAP applications and services enable more than 172,000 customers worldwide to operate profitably, adapt continuously, and grow sustainably. In 2010, SAP generated revenues of €10.67 billion and employed over 47,500 employees. Several of SAP's facilities from around the globe are pictured in Figure 18.

SAP has established a **Sustainability Council:**

- Led by a Chief Sustainability Officer (CSO)
- Comprised of the CEO, COO, CFO, and senior managers representing the various business functions of the company
- Meets regularly to discuss progress and further improve the sustainability strategy and its implementation[51]
- In addition to the Sustainability Council, SAP has **sustainability champions,** or local green teams to ensure bottom up, grassroots initiatives.

Figure 17. Organizational and regional structure of SAP Global Facilities Management (GFM).

Source: SAP Global Facilities Management, 2008.

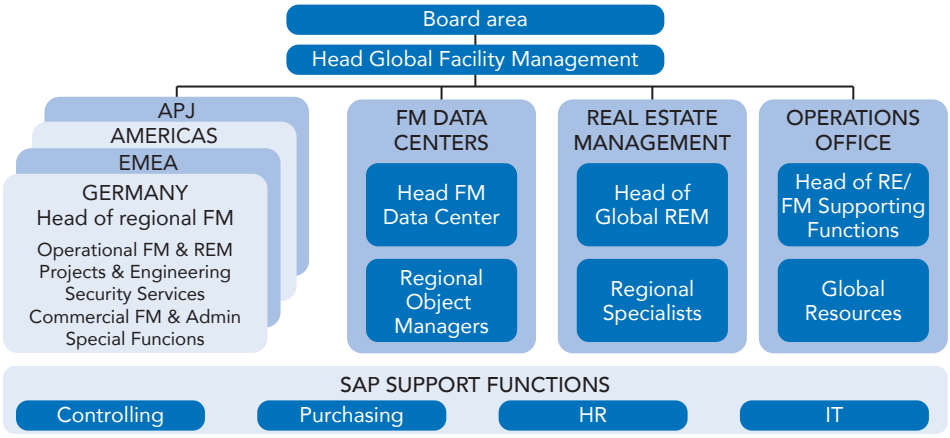


Figure 17 illustrates the following information regarding the **Global Facilities Management (GFM) department:**

- **Responsible for all aspects of sustainability implementation in buildings**
- GFM specialists are pioneering green workplaces and their work covers all sustainability building related issues[52]
- GFM specialists attend monthly calls to discuss progress on sustainability
- Responsible executives within HR, IT, RE, and other departments, hold monthly calls with the Sustainability Council and report quarterly to the Board
- The RE team also forms ad-hoc inter-departmental groups, primarily with the IT and HR departments, to implement various sustainability initiatives related to facilities

[51] SAP Sustainability Report 2010. See http://www.sapsustainabilityreport.com.
[52] Maritta Ivanov. SAP Green Building Initiative. 2011.

- For example, the team works with IT and HR to implement **Alternative Workplace Strategies (AWS**) with a focus on teleconferencing
- The team also works with the software development unit to develop building management system tools
- On the local level, SAP has **Sustainability Champions – a global network of volunteer employees**

Figure 18. SAP GFM & sustainability implementation in real estate.

Source: SAP Global Facilities.

Policies:

The company has a **global environmental policy**, which:

- Covers environmental sustainability
- Aligns with the Supplier Code of Conduct
- Aligns with the corporate social responsibility policies
- SAP is starting to implement **ISO 14001 environmental management systems** in four pilot locations in Italy and Germany. After testing and learning from the pilots, SAP plans to roll out ISO 14001 globally.

Strategy

Sustainability is at the core of SAP's business strategy:

- All owned properties that have been recently constructed are compliant with LEED (or similar) certification standards at various levels.
- Leased spaces are to be transformed in a way that improves performance around utility and carbon reduction, with or without certification.
- All new assets are targeted to be certified to LEED or equivalent standard.

The **roadmap to implementing the strategy** focuses on:

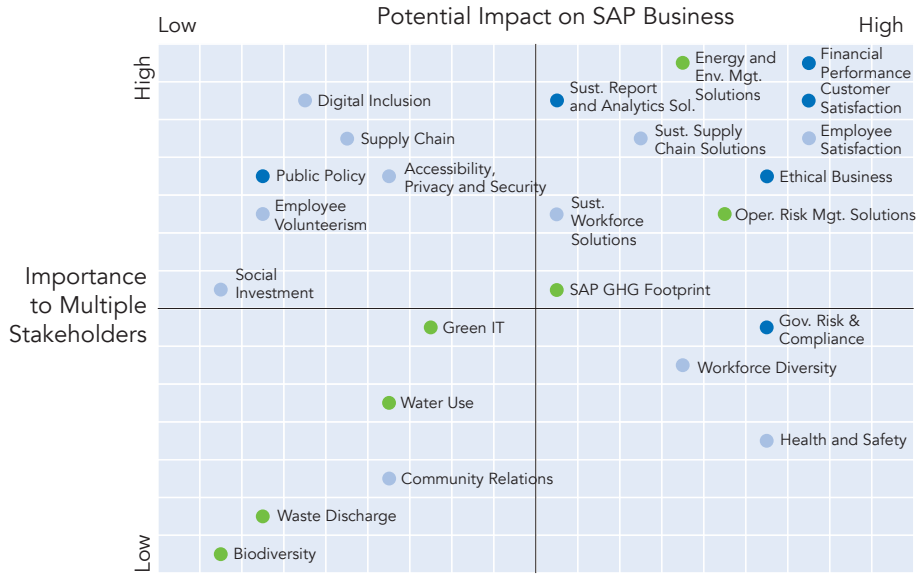
- Reducing utility use and costs
- Changing the mix of utilities being used, with focus on increasing the use of alternative energy
- Reducing travel by providing video conference (VC) rooms worldwide

SAP uses a **materiality matrix to identify which sustainability issues are of greatest importance** to the company, as well as its stakeholders. This matrix is visualized in Figure 18. The company reviews the materiality matrix annually with a broad range of stakeholders. Based on stakeholder feedback and other considerations, SAP makes amendments to the matrix, including shifts in importance of issues, addition of issues, deletion of issues, and/or changing the name of issues.

Figure 19. SAP's materiality matrix (2010 snapshot).

Economics
Environment
People

Recreated from SAP Sustainability Report 2010 – http://www.sapsustainabilityreport.com/sites/all/themes/sapsr/pdfs/SAP_2010_Sustainability_Report_Summary.pdf.



Goals:

SAP uses GHG emissions as a proxy measure for inefficient operations and excessive use in facilities, travel, and the supply chain.

The overall **long-term goal is to reduce carbon emissions to year 2000 levels by 2020**.

- Executives track the progress towards the long-term goal on a quarterly basis.
- Along with its policies, which have regional variants, SAP has established **third stream goals on the regional level for greater**

flexibility and effectiveness in achieving the overall goal for carbon reduction.

Sustainability is not a "project" at SAP. Sustainability is an integrated part of the business and, as such, sustainability is an organizational component for SAP. Sustainability targets are part of the GFM objectives and meeting them is tied to the bonus plans of the majority of employees.

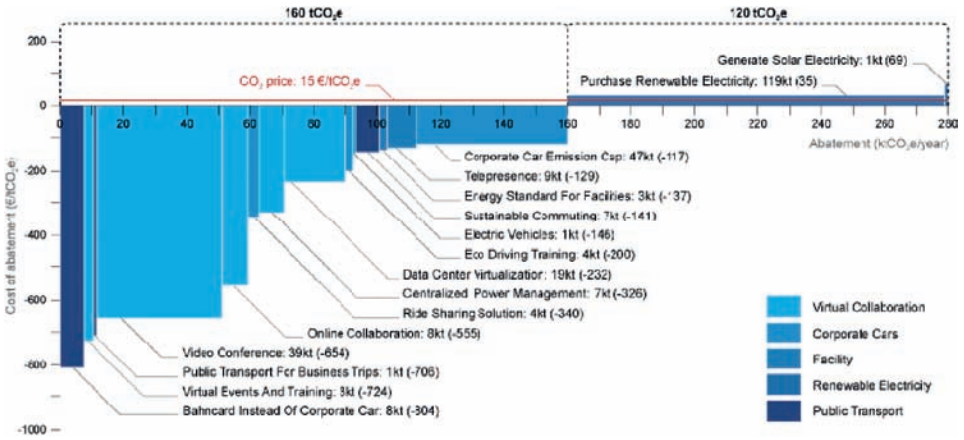
Resource Allocation for Sustainable Outcomes:

Facility specialists do not have a dedicated capital or operating budget for sustainability. Instead, the preference is to have **resources for sustainability integrated into each department's ongoing operating and capital budget** at the local level. Sustainability is so integrated into the business strategy that it is not treated as a separate project with its own dedicated budget.

SAP allocates financial and other resources on the basis of **life cycle cost (LCC)** accounting. The company's methodology for identifying and prioritizing sustainability projects incorporates SAP's **carbon abatement cost curve** (see Figure 19). SAP is one of the first companies to create a carbon abatement cost curve which is a tool that is usually deployed by a country or region to craft a regional GHG emissions reduction strategy.[53] Possible initiatives for reducing GHG emissions are evaluated based on carbon reduction potential and the cost of the initiatives. The abatement cost curves shows executives an overview of all win-win situations. Projects on the left have negative costs per ton of CO2e (i.e., presenting a benefit to SAP).

Figure 20. SAP's carbon abatement cost curve.

Source: SAP Sustainability Report 2010. See http://www.sapsustainabilityreport.com/abatement-cost-curve.



[53] SAP Sustainability Report 2010. See http://www.sapsustainabilityreport.com/greenhouse-gas-footprint.

Facility specialists undertake indoor environmental quality (IEQ) upgrades in addition to energy efficiency (EE) upgrades and ensure that adequate resources are allocated to both. A recent assessment of one of the company's LEED buildings revealed that potentially more EE than IEQ investments may have been made. The company continuously tries to achieve the best balance in that regard by looking, for example, at how improving the quality of the work environment fosters creativity and innovation. Facility experts incorporate IEQ data into project evaluation and financial analysis by doing post-occupancy evaluations of existing sites in which IEQ investments have been made. SAP uses historical data, post-occupancy evaluations, and other responses to make the case for future qualitative upgrades.

Alternative Workplace Strategy:

SAP has completed a wide range of well-documented alternative workplace strategy (AWS) projects that support sustainability. These include **flex-desks** and **home-based work.** Specialists have done in-depth initial assessments of the new work process and work modes around software technology – how teams collaborate better and how remote employees work effectively. The program has not yet been implemented globally due to differences in regional readiness, including those where working from the office is less of a cultural norm and/or where the infrastructure for the high speed Internet is less robust,

Guidance

SAP has **developed comprehensive guidance to successfully implement its strategy**. This is supported by internal software solutions that effectively manage and report data.

Guidelines:

SAP has established many guidelines that address more sustainable operations, primarily applied on a regional level including:

- **LEED Rating System** and other green building standards
- **Green cleaning standards** as required by Green Seal
- **Standards for recycled paper**
- **Data center** construction, equipment, and efficiency

Key Performance Indicators (KPIs):

The company uses its **SAP Business Objects Sustainability Performance Management** application to set and manage all of its KPIs by leveraging a central KPI library that includes metrics based on the **Global Reporting Initiative (GRI) standard**.[54]

The **facilities subset of KPIs** includes:

- Carbon
- Energy
- Electricity from renewable sources
- Data center electricity
- Water
- Waste
- E-waste
- Health and productivity
- GHG emissions are measured on an absolute and per employee basis
- Energy is measured per square meter and per employee.
- Space utilization and total cost of occupancy (TCO) are reported on a per square meter basis as well as per FTE basis

Data:

The company developed and uses its own software solutions to drive sustainability. **With an internal survey tool, SAP collects environmental data for its sustainability KPIs quarterly.** The tool:

- Resides in SAP's own REFX, used by many Fortune 500 companies around the globe
- Allows SAP to understand utility use based on various building criteria such as location and region or by specific building attributes such as if the building has an air conditioning system or how much floor space it has
- Uses Outlook to send requests to about 120 of SAP's main sites (which account for 80% of total electricity use), monthly data is populated by responsible executives at each site, and returned to the central database. SAP then uses this precise and audited data to extrapolate and make estimates for its additional 200+ sites around the world

[54] SAP. See http://www.sap.com/solutions/sustainability/offerings/software-services-and-content/sustainabilityperformance-management/index.epx.

The company **uses a combination of SAP sustainability solutions to accurately and easily track, report, and manage GHG emissions data** portfolio-wide including:

- Analytics
- Performance management reporting (such as goals and objectives that are "cascaded" throughout the organization)
- Carbon-impact assessment technologies

SAP also **engages KPMG to conduct data audits**. SAP has the highest assurance level ("reasonable assurance") on its carbon numbers.

Through badging systems, SAP is able to measure real-time occupancy site-by-site at about 20 of its large campuses. Occupancy data is updated as required, and currently a new survey tool is in development to achieve quarterly or semi-annual data for its main sites.

Benchmarking:

SAP **has investigated benchmarking using its internal tools rather than external databases** such as ENERGY STAR Portfolio Manager, which only has a U.S. building database and has determined:

- It would be difficult to benchmark one building's performance against another on a global basis as it does not find it informative to compare assets in different climate zones and with different building systems.
- Benchmarking is done on a more basic and regional, or local level, rather than portfolio-wide, allowing for better building comparisons and improved performance comparisons.

Targets:

- As of 2011, **SAP has established quantitative global reduction targets for GHG emissions and energy use**. The goal is to reduce global GHG emissions to year 2000 levels by 2020. For 2011 the target is to reduce overall corporate facilities energy use by 1% and within that, a specific target to reduce natural gas use by 3%. SAP aims to increase the use of renewable energy above the current 48% of its total electricity use, but no specific target has been established. (For detail on SAP's use of alternative energy sources, see Figure 20.)
- **Global reduction targets for waste and water have not yet been set** since executives believe that more precise measurement and less estimation is required to create a more accurate baseline. As

with many companies, SAP still has not agreed on what constitutes waste and how waste that goes to landfill is measured. Targets for water and waste currently exist only on the site level. In order to sign off on it, SAP's external auditors will need to have a clear understanding of how and how often data is computed and whether the process is auditable by a third party.

Implementation

SAP has **a comprehensive implementation strategy** across design & construction, and operations & maintenance.

Design & Construction Phase (D&C):

- All newly owned **buildings have been constructed to a variety of LEED standards**
- Developed **green construction guidelines and building standards**, and applies them as much as possible for all new leased facilities
- Follows an **integrated design approach to yield maximum building performance and to ensure that all building sustainability dimensions are addressed**, including resource efficiency, cost efficiency, and employee health and productivity

Operations & Maintenance Phase (O&M):

SAP has not established comprehensive global green operations and maintenance (O&M) standards (with the exception of green cleaning standards, as required by Green Seal) since the three large owned campuses, through local policies, guidelines, and standards, are run very effectively from a sustainability standpoint.

Some of the company's **best practices** include:

- Energy and GHG emissions management
- Building envelope and HVAC upgrades
- Water efficiency strategies
- Data center efficiency strategies
- Occupant engagement
- Green procurement
- Executives are considering the use of performance contracting to ensure compliance with policies and standards as well as achievement of targets.

Table 7. SAP Implementation by Category.
Source: SAP Sustainability Report 2010.

GHG Emissions Management	Formal annual GHG emissions reduction plan with specific projects, actions, and targets that are set to deliver on annual results and ultimately, meet the 2020 goal
	Main contributors to the 2010 GHG emission savings for SAP have been energy efficiency projects and the continued purchase of renewable energy
	Effort to change employees' commuting patterns
	Results: 6% drop in GHG emissions while at the same time the company revenue increased by 17% [50]
Building Envelope & HVAC	Retrofits building envelopes on regional and local levels
	Shifts from outdated systems to new and more computerized systems • Different chillers such as scroll or oil-less chillers • New smaller and very high-performance boilers • Variable speed motors and drives • Optimizing cooling tower operations
	Establishes equipment replacement guidelines ensuring certain chemicals are not present when replacing equipment
Water	Water efficiency has become increasingly important for the company which are local and customized: • The efforts include responsible landscaping and irrigation • Recycling of water • Installation of waterless fixtures where possible
	Examples of specific, localized initiatives: • Recycled water: – Used for the cooling systems in India – Low-flow or waterless toilets and other water efficient fixtures are common and deployed for all new construction in North America – In Brazil, wastewater is recycled and introduced back into the building for use in non-potable systems such as cooling towers, irrigation, and toilets
	No low impact exterior site management plan, but works with local regulatory bodies on site impact analysis and conducts leak assessments in certain locations only if required
Lighting	Lighting retrofits, including installation of sensors
	Most buildings use LED fixtures and ongoing evaluations are undertaken to assess their effectiveness • For example, in the Palo Alto location, GFM installed state of the art LED fixtures that reduce energy consumption by 40% per fixture over conventional fluorescent lighting and increase occupant comfort
Indoor Air Quality	Annual indoor air quality (IAQ) inspections are conducted in certain facilities to ensure that the environment is free from harmful contaminants

Data Centers	Focusing on improving the efficiency of data centers, one of the biggest sources of energy use and GHG emissions
	Data center efforts emphasize advanced strategies and technologies
	Executives from RE and IT work closely to determine where and how to build new, as well as improve existing, data centers
	Implementing strategies such as: • Free cooling systems (where the use of outside air instead of mechanical heat rejection is feasible) • Effecting virtualization of servers • Hot and cold aisle separation (effectiveness of cold air is improved by channeling directly through the racks vs. trying to cool the data center room) • Installing variable speed motors, drives, and fans • Raising ambient temperatures in data centers in accord with ASHRAE TC 9.9 standard
	To achieve more sustainable IT operations: • Established power efficiency as a criterion for purchasing efficient hardware (servers, storage, network equipment) • Focused on reducing the number of technologies by implementing virtualization, thin provisioning, and deduplication • Currently, 80% of new servers are implemented as virtual servers on existing hardware. The goal is to achieve 50-60% system utilization [51]
	Electricity use for the larger data centers is metered and reported separately (see Figure 22 in the Results section, below). SAP uses power usage effectiveness (PUE) as a KPI for data center efficiency
Renewable Energy [52]	Since 2009 the company has increased its use of alternative energy from 16% to over 48% of its total electricity use
	Solar panels at headquarters in Waldorf, Germany generate 185 MWh a year
	Solar panels at the offices in Palo Alto, California generate over 2,000 MWh a year
	In Palo Alto, CA offices, electricity is purchased from local, recently built, wildlife-friendly wind turbines, hydro, and solar facilities (all energy verified through Green-e Energy), resulting in the offices being 30% powered by alternative energy sources
	Sourcing 50% of the electricity at the Walldorf, Germany headquarters and the main data centers in St. Leon-Rot from hydro sources in the South of Germany (provider is a TÜV-certified regional utility company)
	Newtown Square, Pennsylvania facility purchases renewable energy credits (RECs) generated by wind electricity for almost 100% of its annual consumption
	Evaluating use of solar water hearing and new solar panels installed on parking lots
	Most of the alternative energy is purchased through RECs, with focus on increasing their number in Asia and Europe • To ensure the purchase of high-quality RECs, SAP has hired auditors to confirm that the selected RECs (as a result of issuing an RFP for RECs) are acceptable. All data is verified by KPMG at the end of each year
Occupant Engagement & Training	Recognizes that driving behavior change is critical to meeting its GHG emissions reduction goals Has made efforts to ensure greater transparency by providing performance information to employees in the form of a dedicated sustainability portal (RE wiki and Intranet site, as well as corporate sustainability website and wiki pages) and large TV screens
	Reporting through SAP's solutions, which are based on lines of business, not only helps establish goals for specific business areas or geographies but also drives behavior change [53]
	The growing number (150) of volunteer Sustainability Champions organize sustainability events for employees and get feedback on a local and even a regional level
	Training sessions to update staff regarding the use of new equipment and software are also provided • Providing labeling and signage in its facilities to positively impact occupant behavior – for example, switching off lights, recycling, and minimizing water use

[55] SAP Sustainability Report 2010. See http://www.sapsustainabilityreport.com/greenhouse-gas-footprint.
[56] SAP Sustainability Report 2010. See http://www.sapsustainabilityreport.com.
[57] SAP Sustainability Report 2010. See http://www.sapsustainabilityreport.com/renewable-energy.
[58] SAP Sustainability Report 2010. See http://www.sapsustainabilityreport.com.

2010 emissions reached a total of 425 kilotons, a drop of 25% from the peak in 2007. SAP continues to grow while minimizing its environmental impact, as indicated also by the fact that GHG emissions per employee went down in 2010 by about 8% and per Euro of revenue by 19%. Reductions of GHG emissions in 2010 compared to 2007 are as follows:[59]

- Electricity usage: 9% reduction
- Corporate Cars: 1% reduction[60]
- Business Flights: 33% increase
- Employee Commuting: 14% reduction

SAP sustainability solutions:

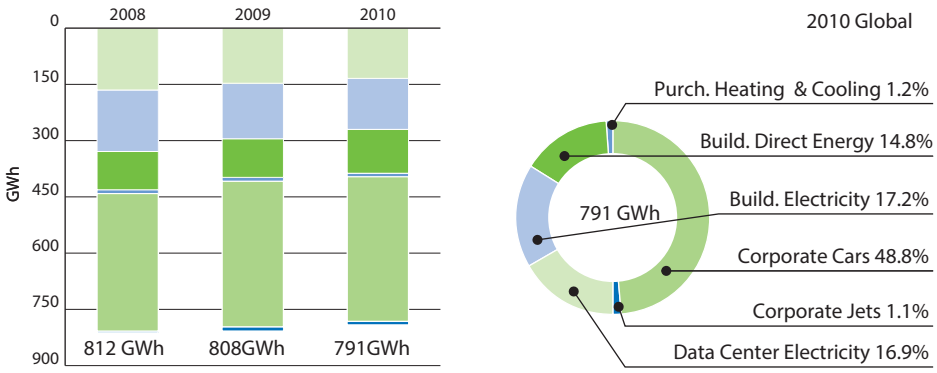
- Provides a new level of data precision and visibility which allow the company to identify the largest impact areas and opportunities for GHG emissions reduction
- Tracks Scope 1, 2, and 3 GHG emissions
- Enable the company to synthesize and report on different datasets (HR, RE, financial, utilities)
- Used for all the analysis of GHG emissions, including to model initiatives and develop scenarios for emissions reduction enterprise-wide. For example, the company can indicate by how much emissions have been reduced during a specific timeframe and query the HR and GHG emissions datasets to provide insight and reports as to how many tons of GHG emissions per employee per month have been generated

Figure 21. Breakdown of SAP's energy sources on a global level. Energy from:

non-renewable sources

renewable sources

Source: SAP Sustainability Report 2010.



[59] Ibid.

[60] SAP has electric vehicles (EV) and electric vehicle charging stations in its Pennsylvania campus. SAP is doing multiple trials with EV in its headquarters in Germany.

Reporting Results

SAP uses its SAP Business Objects Sustainability Performance tool to analyze to what extent teams, divisions, and individuals support sustainability initiatives.

The **team reports monthly on progress towards more sustainable performance**, as well as corrective actions in cases where targets are not met. Such reporting to the Sustainability Council is required quarterly, and to the Board annually. The company welcomes employee feedback from around the world in relation to local sustainability concerns, as well.

The company generates **quarterly and annual online interactive Sustainability Reports** (see Figure 22, 23, and 24).

The **2010 Sustainability Report** was:

- Prepared in accordance with the GRI G3 sustainability reporting framework, fulfilling the requirements of application level A+
- Independently verified by GRI and assured by KPMG
- Fulfills the AA1000 Accountability Principle Standards
- Reported GHG emissions data was prepared using SAP's own internal criteria based on the Greenhouse Gas Protocol[61]

Finally, the company **practices integrated reporting by combining their financial and sustainability reporting.** For a fifth consecutive year, SAP is ranked number one on the DJSI. SAP is ranked in the top ten of the Carbon Disclosure Project discloser and performance ranking. The company is also included in the FTSE4Good Index Series for ethically screened investment.[62]

In addition to reports, SAP provides online videos, news, and whitepapers related to sustainability through its **SAP Sustainability Newsroom and Sustainability Library websites**.[63] The sharing of best practices occurs through the global network of Sustainability Champions.

[61] SAP Sustainability Report 2010. See http://www.sapsustainabilityreport.com/about-this-report.
[62] SAP Sustainability Report 2010. See http://www.sapsustainabilityreport.com.
[63] These are accessible online. See http://sustainability.news-sap.com/ and http://www.sap.com/lines-of-business/sustainability/resources.epx.

Figure 22. SAP GHG emissions: 2008-2010 grams/€ (left), 2010 percentages by use type (right).

Source: SAP Sustainability Report.

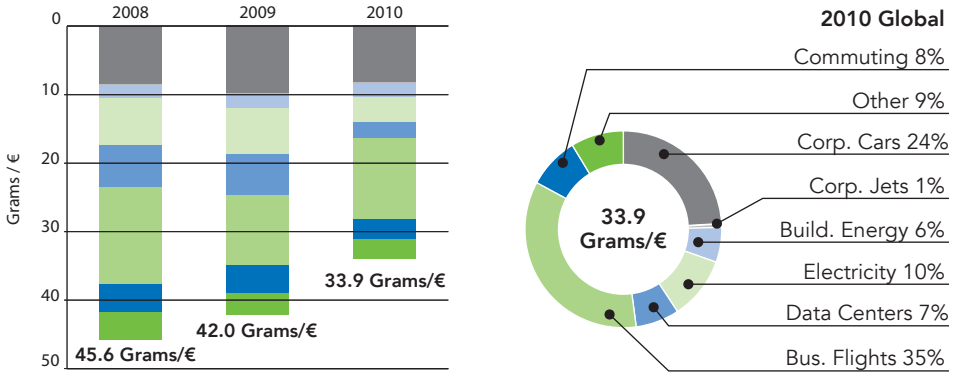


Figure 23. Total Energy Consumed by SAP Globally: 2008-2010 (left); 2010 percentages by use type (right).

Source: SAP Sustainability Report.

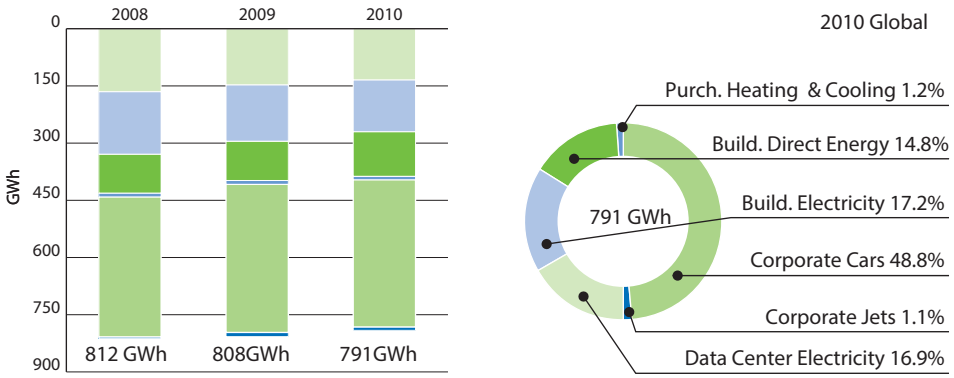


Figure 24. SAP's sustainability performance progress from 2009 to 2010.

Source: SAP Sustainability Report.

		2009		2010
Environment	Greenhouse Gas Footprint (kTons rounded to units of 5)	450	↘	425
	Total Energy Consumed (GWh)	808	↘	791
	Renewable Energy (%)	16	↑	48
	Data Center Energy (kWh/employee)	3,038	↘	2,763
Social	Employee Turnover (%)	11	↓	9
	Women in Top Management (%)	11	↗	11.5
	Employee Health (%)	61	↘	59
	Employee Engagement (%)	69	↘	68
Economic	Revenue-SSRS (€ millions)	8,198	↑	9,794
	Operating Margin (%, non-IFRS at constant currency)	27.4	↑	30.5
	Customer Satisfaction	7.7	↘	7.6

3.2 Bentall Kennedy: Enhancing Long-Term Value for Investors

Vision & Governance

Bentall Kennedy (the Company) is committed to ensuring its environmental, social, and governance practices enhance the long-term value for its investors by:

- Reducing risks
- Reducing operating costs
- Increasing tenant satisfaction and loyalty

The Company operates under a comprehensive Responsible Property Investing (RPI) strategy. According to CEO Gary Whitelaw, "Responsible Property Investing is a strategic approach that considers the environmental impact and social implications of real estate investments and operations, and hinges on the principles of sound and transparent governance. Being proactive in this regard allows us to better address risk and enhance asset value over the long-term."

Bentall Kennedy's Sustainability team's shared vision is built upon a series of 3-year plans, primarily comprised of certifications, key resource use targets, and GHG emission reduction goals. Bentall Kennedy has a formal set of policies for sustainability, environmental, climate change, and other related policies.

Currently, Bentall Kennedy reports that they are in the early stages of garnering executive support for a longer term vision includes goal setting across three categories:

- **Risk reduction**
- **Energy cost reductions across their portfolio**
- **Improving tenant wellbeing** to elevate corresponding social indicators

Figure 25. Bentall Kennedy's Newport Tower in Jersey City, NJ (left) and Gates Plaza in Denver, CO (left).

Source: Bentall Kennedy 2013 Corporate Responsibility Summary.

PROFILE

Bentall Kennedy is one of the largest private real estate investment advisors in North America. For its Canada region, Bentall Kennedy provides asset, portfolio, and property management services, in addition to leasing and development. For its US clients, Bentall Kennedy provides investment advisory services. The firm employs more than 1,200 employees at its 13 offices, and serves more than 500 institutional investors in 142 million square feet of office, retail, industrial, and apartment space. Bentall Kennedy offers specialized real estate expertise through investment management and local-based real estate development and management. Bentall Kennedy's assets total more than $30 billion across the US and Canada.[59]

Governance

Bentall Kennedy's sustainability governance structure is composed of Vice President of Sustainability, James Gray-Donald, and an ESG working committee which reports to the Board on sustainability.

Bentall Kennedy is in the process of creating a sustainability "Innovation Committee." Likely comprised of 8 people, the **Innovation Committee** will be tasked with reviewing new technologies and services. In general, the Committee will identify to high potential projects and recommend 3-5 projects per year that require funding and additional verification.

[64] http://bentallkennedy.com/about_us_capabilities.php; Bentall Kennedy's 2013 Corporate Responsibility Summary.

The innovation process will be as follows:

- New ideas will get thrown to the top of the 'funnel'
- Committee will review top ideas quarterly
- If new ideas are approved they will recommend piloting them at an appropriate asset

Strategy

Bentall Kennedy's current sustainability strategy focuses on **four key initiatives**: [65]

1. Employee and tenant engagement
2. Enhanced governance
3. Transit-oriented development
4. Setting goals and focusing on continuous improvement

Employee & Tenant Engagement

In 2012, Bentall Kennedy surveyed all 1,259 of its employees, and discovered that they are truly embracing and taking action on sustainability. Additionally, the survey showed that 93% of employees believe Bentall Kennedy is an environmentally and socially responsible organization, and **their actions resulted in a 2.5% reduction in total annual energy** consumption across the North American portfolio.[66]

Figure 26. Employees and Sustainability – Questions that are the most highly correlated with employee engagement and retention

Source: Bentall Kennedy 2013 Corporate Responsibility Summary.

Bentall Kennedy has leveraged a best-in-class **Tenant Improvement Manual** to ensure consistent standards for sustainable design and operations across the portfolio. The motivating factors in the creation of this tool were to:

[65] Bentall Kennedy's 2013 Corporate Responsibility Summary.
[66] Id.

- Reduce operating costs by improving tenant awareness of sustainability and energy savings
- Ensure consistent standards for tenant improvements, aligned with both LEED-EB and LEED-CI
- Increase sustainability alignment among brokers, construction teams, and designers

Figure 27. Cover for Bentall Kennedy's Sustainable Tenant Improvement Manual.

Source: **Bentall Kennedy.**

Bentall Kennedy distributes the manual to tenants for new build outs, and it is usually adapted to specific buildings. The Company begins LEED-CI conversations as early as the initial building tour, to ensure strong relationships and communications between the management team, tenant design team, and brokers. Additionally, Bentall Kennedy emphasizes that following building specs can earn LEED-CI with low effort, and low cost.

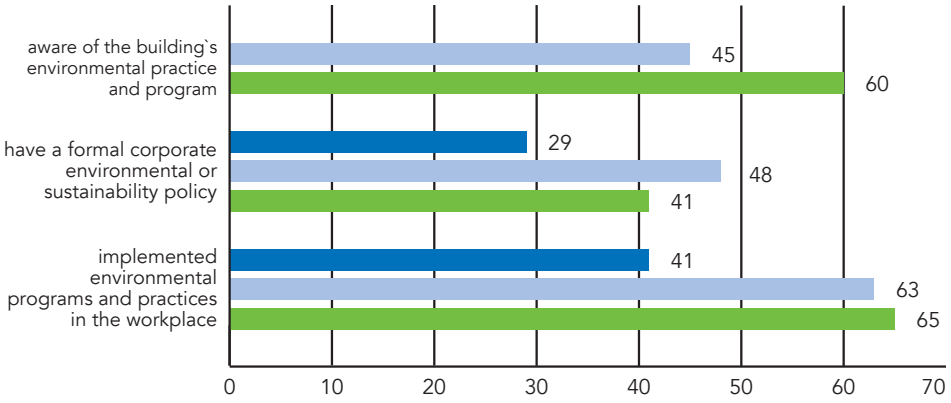
Figure 28. Sample Tenant Improvement checklist, Sustainable TI Manual.

Source: **Bentall Kennedy.**

Checklist

!/+		Status/Notes
Water Efficiency		
!	Reduce Water Use by 20%	
Energy and Atmosphere		
!	Achieve Minimum Energy Performance	
!	Manage Refrigerants	
!	Reduce Lighting Power by 15%	
*	Reduce Lighting Power by 20-35%	
!	Install Lighting Controls	
!	Use 90% ENERGY STAR Appliances	
*	Sub-Meter Tenant Energy Use	
*	Sub-Meter Systems	
*	Practice Commissioning	
*	Purchase Green Power	

Figure 29. Tenant Survey's Sustainability Questions.



Source: Bentall Kennedy 2013 Corporate Responsibility Summary.

Enhanced Governance

In 2012, the California Public Employees' Retirement System (CalPERS) acquired a 1/3 ownership interest in Bentall Kennedy. With that, four new directors were brought on, three of whom are independent directors. CalPERS and Bentall Kennedy share the same commitment to sustainability within their investments and plan to collaborate on ESG initiatives going forward.

Transit-Oriented Development (TOD)

Bentall Kennedy has learned that its tenants want access to transportation systems, as well as high walkability near office and residential properties. Thus, the Company considers properties that are transit-oriented and/or located in a central business district (CBD) when making acquisitions and developments. Between 2010 and 2012:

70% of the US Multi-Employer Property Trust/Edgemoor fund assets were in transit or CBD-oriented

65% of the Bentall Kennedy Prime Canadian Property Fund[67] acquired assets were transit or CBD-oriented

Setting Goals and Focusing on Continuous Improvement

Between 2011 and 2012, Bentall Kennedy reduced overall energy consumption by 2.4% and will increase that percentage in the future.

The Company presently sets targets for energy reduction, specifically, a 1% annual reduction. 2013 is the first year that 170 buildings will have established energy reduction targets. The Company would like future reductions to increase to 2% with bonuses given for reductions between 4-6%. In 2015, the Company aims to require that all property and facility managers—internal and external—meet an annual energy reduction target and those who achieve energy reduction of 6% receive a bonus. Bentall Kennedy has not set targets for water consumption because the company is a low water user. Electricity and natural gas account for 90% of the Company's utility costs at the majority of properties, so it makes economic and environmental sense to have set targets for these in place. Regarding waste targets, Bentall Kennedy's priority is to get reliable data. There is no set target for waste reduction until a system is in place to secure reliable data.

[67] The Bentall Kennedy Prime Canadian Property Fund is comprised of income-producing office, industrial, retail and multi-family residential properties designed to generate a stable long-term return for pension funds and other institutional investors.

Guidance

Bentall Kennedy has rolled out a comprehensive checklist in Canada, including approximately 100 indicators of sustainability performance (e.g. outdoor landscaping, IAQ, etc.). The only checklist that has been implemented in the US is a part of the acquisition due diligence process. In 2014, one of the main corresponding projects for the sustainability team is to align their current checklist with information from LEED and EBOM.

Data Management

Bentall Kennedy has a comprehensive internal EMS, called EcoTracker, to monitor environmental performance in office buildings and enclosed malls. EcoTracker is an auditable, enterprise software system. All of the office buildings within the Bentall Kennedy portfolio with a utility spend of more than $50,000 are required to be tracked by EcoTracker. Other proprietary systems used are: EcoView, used to track retail and industrial assets; EcoModeller, used to predict reductions; and BORIS, used for environmental management, regulatory compliance and performing due diligence.

Key Performance Indicators

Bentall Kennedy has a set of key performance indicators for sustainability. The Company tracks energy, GHG emissions, water, waste, and others. Energy data is received directly from an interval meter, and the remaining data is received from utility bills, all within the EcoTracker solution. The company tracks waste data in the tool, as well.

Benchmarking

Bentall Kennedy benchmarks buildings for energy and sustainability performance on a portfolio-wide basis for energy, water, and waste consumption and cost. 80% or more of the Company's commercial buildings are currently benchmarked using ENERGY STAR Portfolio Manager, which is automated via a direct report from EcoTracker. Across the portfolio in 2013, the average ENERGY STAR rating was 75.

Implementation

To identify and acquire more sustainable facilities, Bentall Kennedy conducts initial assessments and performs a LEED Gap analysis for most-buildings. Currently, $6.9 billion of Bentall Kennedy's property assets are LEED certified.

Design & Construction Phase

During the design and construction phase, Bentall Kennedy will typically work with developers who show alignment on sustainability objectives and values. Additionally, Bentall Kennedy has created a tenant improvement manual, distributed to all new and renewing tenants, to support consistent fit out and design standards in its office properties.

Operations & Maintenance Phase

Table 9 lists Bentall Kennedy's various sustainability tactics and summarizes how they are currently being implemented during the Operations & Maintenance phase.

Table 8. Bentall Kennedy's Implementation by Category
Source: Bentall Kennedy.

Category	
Advanced Building Automation Systems	In process of creating internal tool that moves beyond collecting building data streams to more intelligent systems based on algorithms to model and predict data
Building Envelope	Conducts an audit of envelope performance for 25-50% of owned area
EH&S	Uses software tool to manage
Energy Efficiency	Energy efficiency projects are the low-hanging fruit because Bentall Kennedy can exert control over their implementation and play a direct role in managing the financing and recovery of capital costs.
Energy Management	Over the past 3 years, Bentall Kennedy has reduced energy use by 5%. In the next 3 years, the Company plans on setting a goal of 5-10% reduction in energy use
Fuel Cells	Conducted a feasibility study to evaluate fuel cells for properties in Jersey City, NJ(because local grids were less GHG intensive, and thus the benefit of having natural gas-fired fuel cells is approaching the breakeven point), primary motivators behind fuel cell decision making are cost savings and environmental benefits. Fuel cells are already installed at two residential properties in New Haven, CT, and in New York, NY
Green Leasing	New tenants are encouraged to meet certain sustainability measures – including LEED-CI
HVAC: Preventative Maintenance & Continuous Commissioning	Any upgrades done to HVAC systems depends on the clients. Many of the Company's leases have specific targets, but there is currently no portfolio-wide effort or target
Indoor Air Quality (IAQ)	Performs an IAQ audit on all office properties once per year; and they are encouraged twice per year to identify any differences in seasonality

Category	
RECs	Buys RECs to offset the emissions of their corporate operations. In Canada, Bentall Kennedy purchases EcoLogo-certified RECs and Green-e certified RECs in the US.
Renewable Energy	In the past 36 months, the following factors have influenced a change in Bentall Kennedy's approach to renewable energy and energy management: • Cost of photovoltaics • Technology changes • Regulatory changes • New partnerships or approaches (e.g. vendor, ESCO model, utility tariff) Currently, there are some on-site generation systems installed by Bentall Kennedy's tenants, as well as some owned and installed by Bentall Kennedy's clients (solar and fuel cells)
Submeters	Implemented submeters in tenant spaces for systems such as HVAC, lighting, and plug load; no company-wide submetering policy.
Tenant Engagement	ForeverGreen platform piloted in 2013 and launched January 2014, available to all office, industrial and retail properties. Provides fitness centers, bicycle storage areas, recycling programs, energy efficiency opportunities; conducts periodic tenant surveys across portfolio; regular communications through newsletters, bulletins, events; implements joint tenant sustainability committees; distributes Sustainable Tenant Improvement Manual throughout all properties

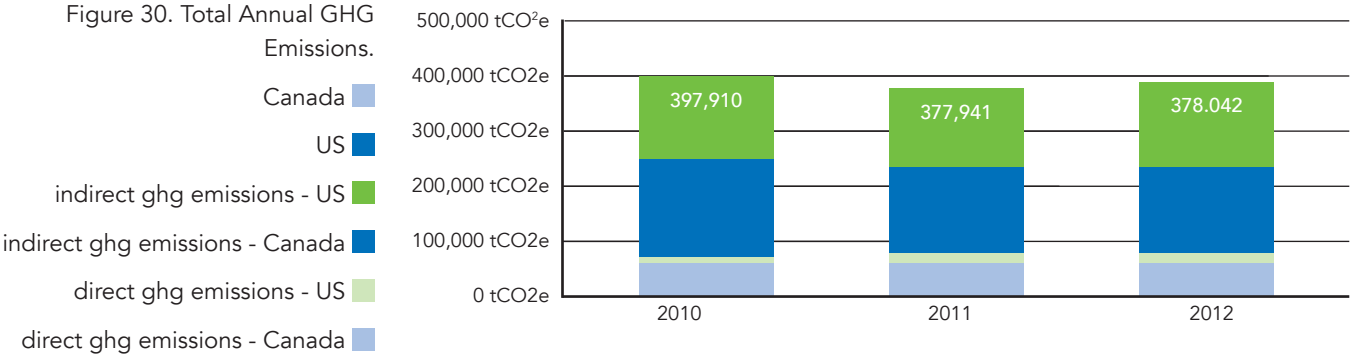
Reporting Results

Bentall Kennedy uses sustainability KPIs to assess the performance of divisions. The Company reports sustainability KPIs to senior management on a quarterly basis. Bentall Kennedy reports to external frameworks CDP, GRI and GRESB.

Energy Reduction

From 2011-2012, total energy consumption decreased by 2.5% portfolio-wide. There was a 5% reduction in GHG emissions compared to 2010. Bentall Kennedy believes this reduction in GHG emissions was due to operational and capital improvements that resulted in significant energy reductions. Figure 30 provides a visualization of this data.

Figure 30. Total Annual GHG Emissions.



Source: Bentall Kennedy 2013 Corporate Responsibility Summary

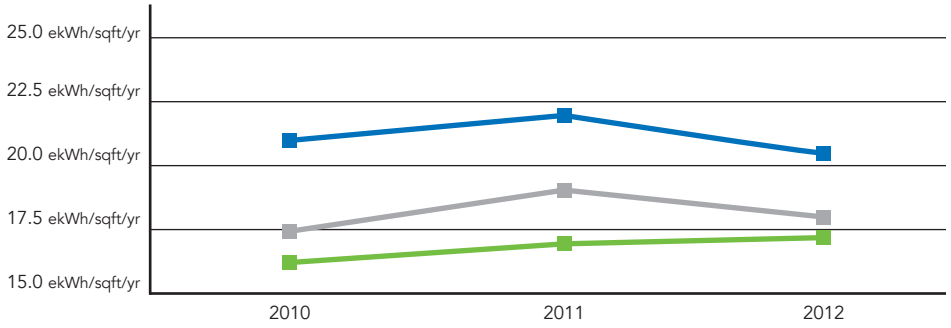
Figure 31. US Energy Intensity by Asset Type.

Office

Enclosed Retail

Multi-Family

Source: Bentall Kennedy 2013 Corporate Responsibility Summary



Specifically amongst the Canadian assets, energy intensity in Bentall Kennedy's office buildings decreased 4% from 2011-2012. It should be noted that amongst the US office buildings, energy intensity increased slightly by 2% over the 2 year period shown. Figure 31 provides a visualization of this data.

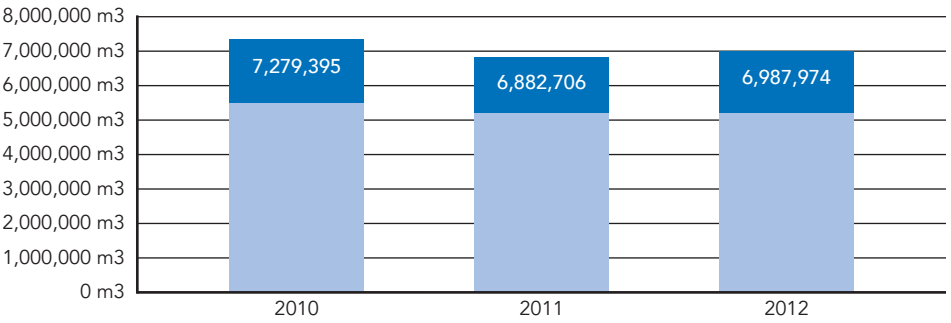
In 2012, across Bentall Kennedy's North American portfolio, water use increased 1.5%. In 2011, water use dropped 5%. This change is due to the increased water usage in office building cooling towers during the recent higher-than-average temperature summer months. Specifically, in the US portfolio, total water use and water use intensity increased 7%. In Canada, total water use decreased 0.4%, and water intensity decreased in office, enclosed retail, and multi-family assets. Figures 32 and 33 below illustrate this data.

Figure 32. Total Annual Water Consumption.

Canada

US

Source: Bentall Kennedy 2013 Corporate Responsibility Summary

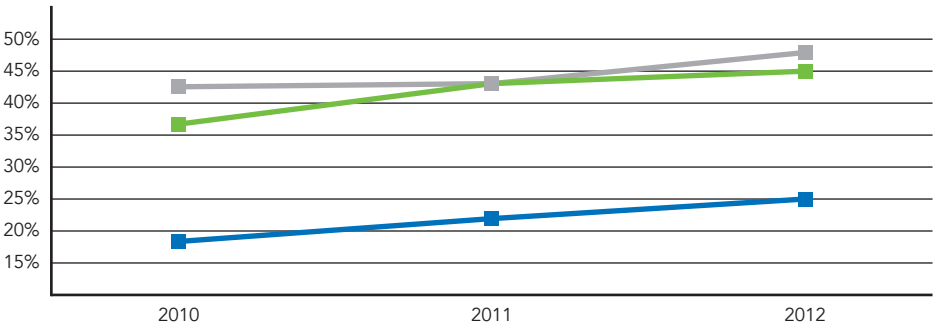


Bentall Kennedy's waste diversion rates have improved from 2010-2012, and the company engages with all tenants and waste management service providers to ensure this success continues.[68] Examples of best practices can be found at Bentall Kennedy's Cloverdale Mall property in To-

[68] A waste diversion rate measures the amount of waste that is sent to recycling compared to how much is sent to a landfill.

ronto—where a zero waste program is currently implemented—and at Capilano Mall in Vancouver, which has implemented an on-site composting strategy.

Figure 33. Diversion Rates by Asset Type.



Source: Bentall Kennedy 2013 Corporate Responsibility Summary

GRESB Reporting

Bentall Kennedy reports to the Global Real Estate Sustainability Benchmark (GRESB). Currently, this process generally requires two employees to devote time to the reporting process. One employee focuses on compiling the environmental performance data, which takes approximately two days per week for one month. The second employee focuses on the performance analysis component of the GRESB report. Bentall Kennedy estimates the entire GRESB process takes approximately 3 weeks from start to finish, and they plan to streamline the process going forward.

Table 9. Third Party Certification and Reporting Schemes

Source: Bentall Kennedy.

Certification or Reporting Body	Description
United Nations	Signatory to the UN Principles of Responsible Investment
LEED Certification	$6.9 billion of Bentall Kennedy's property assets are LEED certified
Global Real Estate and Sustainability Benchmark (GRESB):	Ranked in the top three in the Americas for all three years of participation for sustainability performance among diversified portfolios
ENERGY STAR	2011, 2012, 2013 winner of the Sustained Excellence for portfolio-wide efforts in energy management

Section 4: Developing a Sustainable Operations Strategy

This section provides a management framework for a sustainable operations strategy supported by sector-specific examples based on the five key components of a sustainable operations strategy presented in Section 1.

Key Takeaways

Leading sustainable operations strategies establish:

- A compelling, long-term vision
- Effective governance, policies, and management structures to institutionalize sustainability
- A comprehensive set of qualitative short-, medium- and long-term goals and develop a strategy to achieve them
- Sufficient resources (financial, human, and technical) to implement the strategy effectively
- Comprehensive guidance, sustainability KPIs, and benchmarking to create a robust context for quantitative target setting
- Strong internal and external reporting on sustainability results
- A process to evaluate the maturity of the strategy and identify improvements to accelerate progress by using evaluation frameworks such as SR Inc's SBER Assessment

4.1 Introduction

A growing number of companies are rolling together what traditionally were ad hoc, project-based efforts, to develop a clear and comprehensive **enterprise-wide strategy**. Often, individual senior executives seize an opportunity to build management-level support and enduring systems of management engagement (such as cross-functional sustainability committees) to develop, resource, and champion a sustainability strategy.

Leading facility, sustainability, and operations executives find that:

- A comprehensive and organized commitment to corporate sustainability better aligns them with investors, customers, and talent, and regulators
- Sustainability is a better way to organize and motivate a geographically dispersed and multi-functional teams than the traditional commitment to optimization, which disregards environmental considerations beyond minimal compliance measures
- Aggregating multiple successful sustainability initiatives and pairing initiatives that have a short or immediate payback with initiatives that have a longer-term payback can gain recognition and support from the Board as well as investors and top customers

4.2 Management Framework for a Sustainability Strategy

Based on discussions with SBER Member-Clients and qualitative benchmarking in the SBER Diagnostic, SR Inc has developed a management framework based on the five key sustainable management practice areas presented in Section 1 of this report (see Figure 34):

- Vision and Governance
- Strategy
- Guidance
- Implementation
- Reporting Results

Executives can use the SBER Assessment and this framework to evaluate the strategic maturity of their practices:

- **The Assessment** identifies varying levels of strategy maturity among SBER Member-Clients from "Committed" to"Advanced" to "Leaders."

- **The framework** provides a qualitative benchmark for an executive's planning, a company's practices, and a company's performance against industry peers. Using this framework, executives can identify relevant management best practices to achieve leadership in their own operations.

Figure 34. Components of a Sustainable Operations Strategy.
Source: SR Inc research.

Make the Business Case

As a first step, executives make a comprehensive business case for sustainability. The business case should be built on an enterprise-wide sustainability strategy rather than on ad-hoc, project-by-project initiatives. Ideally, the business case should:[69]

- Identify key drivers for the move towards sustainability
- Represent the benefits of sustainability in an integrated way including financial analysis (where possible) and assessment (quantitative and/or qualitative) of associated benefits.
- Consider opportunities to create additional strategic, product, or shareholder value by integrating sustainability within the core business mission
- Provide information on the company's baseline resource consumption along with any initial assessment studies
- Include case studies with documented results
- Identify the major barriers to the adoption of a sustainable operations strategy and solutions for overcoming them

To make a strong business case, executives:

[69] See Section 1 of this report for more detailed discussion on key drivers, barriers, and solutions.

- Focus the business case on how a sustainable operations strategy **relates to and supports other business functions and core business activities**
- Make the business case to the C-suite to obtain approval as well as ensure continued leadership support at the highest level
- Ensure strong, strategic engagement from all internal stakeholders (i.e., senior management, middle management, employees, and key business functions such as RE, HR, IT, Purchasing, and Communications)
- Engage SR Inc or other outside consultants to help make the business case more compelling by preparing initial studies, conducting baseline calculations or other assessments, identifying risks and opportunities, and estimating impacts from recommended actions

Establish Vision & Governance

Fundamental to the success of the program is the outline of a clear vision, and the necessary governance needed to achieve the vision's goals. An effective vision for a sustainable operations strategy will include input from all of the stakeholders involved with the program. Contribution by all stakeholders will create a robust, collaborative, and informed vision for the strategy, and will establish the processes for managing the strategy's success.

Vision:

Executives **formulate a sustainability vision for long-term value creation** that will enable them to manage risk and best seize opportunities with available human, financial, technological, and other resources.

This vision should be **communicated to the C-suite and other key stakeholders** to fuel long-term value creation while enabling short-term successes.

An **effective vision** is:

- Aligned with the corporate vision, mission, and business goals
- Shared by key stakeholders
- Long-term
- Specific and attainable
- Compelling and inspirational
- Publicly available

Some **common areas** on which Member-Clients focus the sustainability vision include:

- Energy efficiency and cost-savings
- High quality, healthy work environments for employees to attract and retain top talent.
- Risk management from regulatory and climate change (e.g., floods, droughts, and other natural disasters)
- Support of the company's core business and industry
- Ways to lead in the drive to broader sustainability (e.g., healthcare providers articulating links to greater health or insurance companies recognizing the long-term need for sustainability)

Governance:

Sustainability **executives find it necessary to develop an effective governance structure** to ensure accountability to the senior leadership team and bring unity to disparate sustainability initiatives throughout the company.

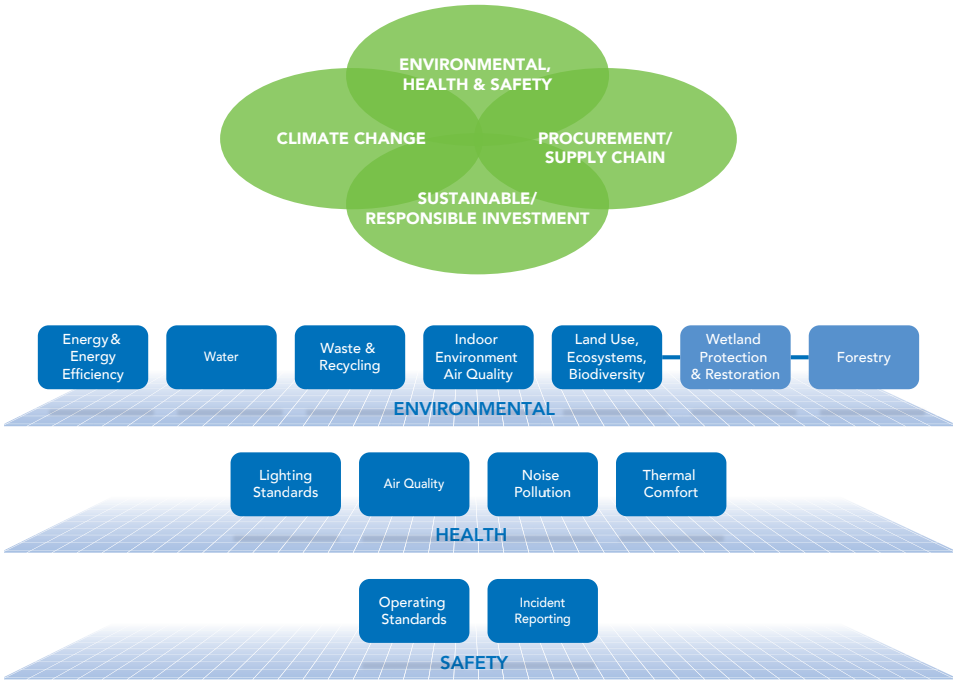
A corporate sustainability team should meet and report to multiple internal stakeholders on a regular basis. In particular, the **sustainability team should regularly report to the C-Suite and the Board of Directors**. Many sustainability teams are composed of representatives from each key business unit, including RE, IT, EH&S, HR, purchasing, communications, and others.

Establish Policies:

Leaders establish a formal set of policies supporting sustainability. These are not simply commitment statements or non-binding 'guidelines,' but concise requirements under which non-compliance is weighed in performance assessments. Many companies set high level global policies but allow for regional variations. Below is a sample hierarchy of interlocking policies:

Figure 35. Interlocking components of a sustainability policy.

Source: SR Inc research.



HR or legal departments are responsible for the development and maintenance of most of the policies. A surprisingly large number of leading companies have not yet established formal sustainability policies, but rather have simply adopted guidelines that encompass a wide range of sustainability initiatives.

While guidelines are not the appropriate means for governing overarching sustainability issues, they can be effective in managing specific sustainability initiatives that are defined by great variability related to geography, culture, vendors, and other factors. Therefore, leading companies recommend the following:

- Centralize policy management so that policies are coherently and consistently developed and are known and available to all employees
- Establish formal high-level policies for overarching global sustainability issues.
- Issue detailed guidelines specific to the industry sector and company initiatives that are influenced by a number of factors that vary across locations
- Conduct a regional analysis of regulations and cultural issues and allow for regional amendments to the high-level global policies

- Convert some of the guidelines and commitment statements into formal policies over time

Develop Management Structure:

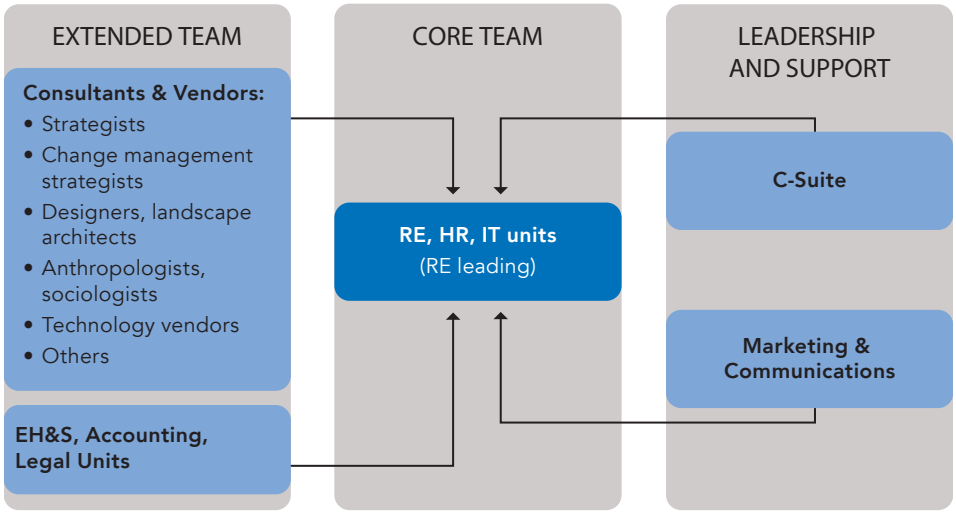
Within the broader governance structure, executives may form **ad hoc, cross-departmental groups and seek assistance from outside experts for specific initiatives**.

- Establishing the core team:**Identify a core team** to take a lead function with defined roles and responsibilities for team members
- **Identify the extended team**, consisting of relevant, cross-departmental executives. Close partnerships with the HR and IT departments are critical
- **Select and hire outside consultants,** contractors, and vendors as part of the extended team to conduct studies, re-design spaces, develop baseline calculations, and define metrics
- **Train existing staff or hire additional staff** with sustainability experience

The core team is usually responsible for most of the strategic and tactical decisions. Other executives from EH&S, accounting, and the legal department are included as part of the extended team. Executives also hire outside workplace strategists, architects, landscape architects, and energy consultants, among others, to help develop and implement the program (see Figure 36).

Figure 36. Cross-functional team for sustainability.

Source: SR Inc Research & Analysis.



In addition to overall governance structure, leaders establish an effective management structure to coordinate among the various business units and functions to carry out the sustainability initiatives. In many cases, executives encourage local offices to **establish local teams** and **facilitate communication and collaboration among them**. Many leading companies also find that social media tools and a dedicated sustainability website greatly facilitate the process of accessing and exchanging information.

Develop a Strategy

After articulating a long-term vision for sustainable operations and establishing the appropriate governance, policies, and management structure, sector leaders develop or adjust their strategy to identify and achieve short-, mid-, and long-term sustainability goals and targets.

Develop and Manage a Strategy:

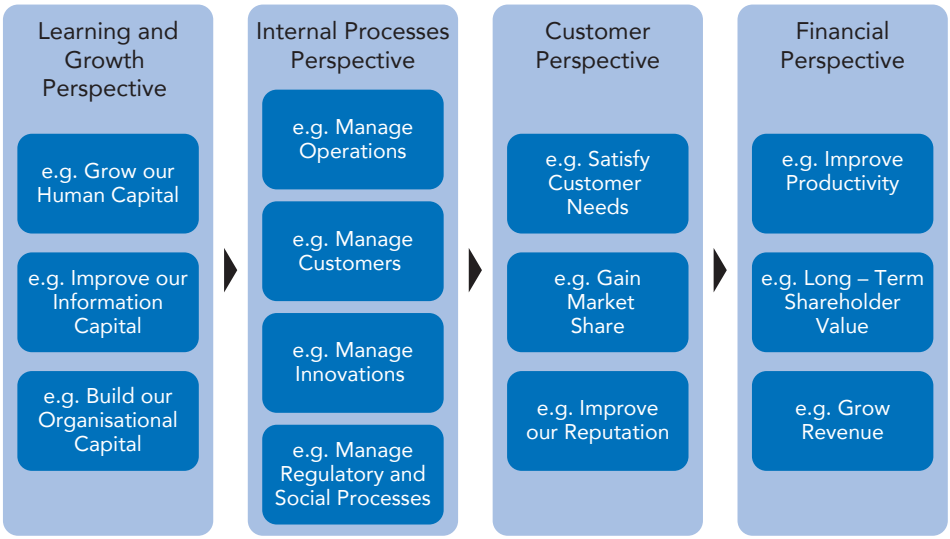
The strategy **must be aligned with the corporate strategy and business goals** of the company. Additionally, executives have found it effective to**:**

- Use a corporate scorecard (see below), to develop or adjust strategy and allocate resources correctly
- Regularly update the strategy to ensure it is aligned with corporate strategy and goals as well as to ensure effectiveness
- Conduct a baseline analysis of the company's resource allocation
- Conduct a SWOT analysis to identify opportunities and risks
- Develop a strategy map
- Create a balanced scorecard for the entire company with a focus on the four key 'perspectives' – finance, customers, internal processes, and employees
- Develop the business case for each initiative modeled in the balanced scorecard
- Establish Key Performance Indicators (KPIs), means for tracking progress, and road map or project plan as well as dedicate budget for each modeled initiative
- Update progress each month and update team during regular meetings

The '**balanced scorecard**,' a variant of the original 'Balanced Scorecard' developed by Kaplan and Norton, is a widely used strategy management tool that can help ensure organizational alignment.[70] The scorecard can then be used to communicate strategy, goals, and performance measures throughout the organization and for accountability of performance. Balanced scorecards are sometimes adapted to include a fifth 'sustainability' perspective, or the financial perspective is expanded to reflect triple bottom line outcomes.

Figure 37. Balanced scorecard strategy map template.

Source: Advanced Performance Institute.



Allocate Resources for Sustainable Outcomes:

Executives who are committed to improving environmental, financial, and social performance allocate the resources necessary to achieve the set goals. This **includes allocating the required financial, human capital (staff), and technical resources for optimal space utilization, energy efficiency (EE) and indoor environmental quality (IEQ) projects.**

Leading companies recommend the following for optimizing resource use and outcomes:

- **Dedicate capital** for sustainability projects for large, one-time projects such as LEED certification, lighting upgrades, etc.
- **Resource operating budgets adequately** for on-going sustainability initiatives

[70] Kaplan, R. S., and Norton, D. P.1996. Balanced Scorecard: Translating Strategy into Action. Harvard Business School Press.

- **Increase dedicated budgets by creating a re-investment strategy** and building a fund for future sustainability projects. This can be done by dedicating some or all savings created by projects to the CAPEX budget or splitting the savings between the CAPEX & OPEX budgets
- **Establish a clear methodology for identifying and prioritizing individual sustainability projects** as well as scenarios, accounting for both cost-savings and associated benefits, even if the latter are hard to quantify (see SR Inc Report Financing Portfolio-Wide Energy Efficiency Upgrades for additional guidance)
- **Develop scenarios** based on combinations of prioritized sustainability projects.
- **Undertake energy efficiency (EE) upgrades** that will result in savings
- **Undertake indoor environmental quality (IEQ) upgrades** to manage risks and address employee needs
- **Ensure adequate resources are allocated** to all space utilization, IEQ, and EE projects
- **Use life cycle cost (LCC) assessment rather than simple payback and ROI analysis** to more accurately estimate the cost-benefits and payback periods of projects
- **Use innovative financing methods** such as performance contracts, energy service agreements (ESA), PACE, and on-bill financing for energy efficiency upgrades
- **Use performance contracting** to maximize results and ensure compliance with established targets
- **Systematically evaluate and leverage available rebates and tax incentives** for sustainability projects
- **Set performance targets for employees and teams** and tie variable compensation to results
- **Partner with utilities** for financial and technical assistance
- **Engage vendors and consultants** for technical assistance

While many organizations will not formally allocate a budget to 'sustainability,' and look to achieve cost savings for no additional investment or with a two or three year simple payback, a few have actively allocated a budget for sustainability.

Account for Alternative Workplace Strategies (AWS):

Executives are implementing alternative workplace strategies (AWS) in response to enabling technology, globally distributed teams, shifting demographics, the collaborative demands of increasing knowledge work, and the rise of corporate sustainability as an organizing principle of business leadership. Today, **executives also deploy AWS as a major means for reducing costs and mitigating environmental impact** (See SR Inc Report Integrated Alternative Workplace Strategies (AWS) for case studies, trends, and implementation guidance).

Develop & Provide Guidance

After the strategy is developed, **executives should develop actionable guidance for staff to utilize in executing the strategy**. Executive guidance should include:

- Guidelines
- KPIs
- Standards for collecting and analyzing data
- Targets
- Milestones

Leaders issue, at minimum, guidelines to support implementation of the strategy, but many are issuing formal policies.Sometimes, guidelines prove more effective than policies as they offer greater flexibility at the regional level.

As a best practice, leading executives provide a comprehensive set of guidelines, supplemented by checklists and tools, in the form of **a 'guidebook' or 'playbook'** for all the activities and initiatives carried out within Design and Construction (D&C) and Operations and Maintenance (O&M).

A sample list of such guidelines is provided within the SBER RLC Global Guidebook for Sustainable Real Estate.

Collect Data:

Executives recognize that **measurement is fundamental to effective management** and therefore, prioritize measurement by assigning responsibility for collecting and compiling data to specialized staff, service providers, or expert consultants. Companies also start by compiling readily available data and expand to other data later, thereby building on success to overcome institutional inertia.

A wide range of enterprise energy and carbon accounting (EECA) software is available today to simplify the task of gathering and managing data by:

- Making data collection routine
- Automating many data collection tasks while also providing data validation, extensive analytics, and reporting tools that reward the efforts of those contributing data

Select Key Performance Indicators (KPIs):

While managers may collect a vast range of data for analysis as performance indicators, they can only reasonably work with a limited number of KPIs to make decisions, influence behavior, and report to executive management and other stakeholders.

Table 10. Common environmental key performance indicators (KPIs).

Source: SR Inc research and analysis.

Metric	KPI	Normalization Factors
Total Cost of Occupancy	% of Total Operating Expenses	• Building Type
Space Utilization	Area / Occupant Area / FTE	• Building Type
Energy Use	kWh / Area	• Building Type • Weather • Occupancy
GHG emissions	Weight CO_2e/ Area	• Building Type • Weather • Occupancy
Waste	Weight / Area	• Building Type • Occupancy
Water Use	Volume / Area	• Building Type • Weather • Occupancy
Indoor Air Quality	Concentration / Area	None

Sustainability KPIs typically meet three key requirements. They:

- Measure performance relative to available resources and the organization's effectiveness in using resources to create value
- Serve as proxies for other kinds of performance as measures of effectiveness
- Are carefully chosen to align with overall sustainability goals

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Member-Clients should contact SR Inc with any questions or comments. Member-Clients who have best practices in sustainable operations strategies that they wish to share with other Member-Clients are encouraged to do so for inclusion in future updates of this report.