ATLANTA BELTLINE, INC.
SUSTAINABILITY ACTION PLAN

Prepared by:

KKH CONSULTING

Southface

May 2015

Sustainability Action Plan for Atlanta BeltLine, Inc.
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Prepared on behalf of Atlanta BeltLine, Inc. by KKH Consulting and Southface

May 2015

LETTER FROM THE CEO

The City of Atlanta strives to be a best-in-class, 21st century city by identifying and implementing solutions to the City's environmental, economic and social challenges. Atlanta BeltLine, Inc. (ABI) is proud to support this mission through our Sustainability Action Plan (SAP). This SAP is designed to match ABI's unique challenges and way of doing business as an infrastructure provider and economic developer. It is one of several action plans that emerge from ABI's 2030 Strategic Implementation Plan to provide practical guidance in how we deploy our resources and achieve our goals.

While sustainability is embedded throughout the Atlanta BeltLine program of projects, we previously lacked a clear definition and measurable goals. This Sustainability Action Plan will help guide, track and communicate our progress toward sustainability, both within our organization and across our program of projects. Commitments presented in the SAP were selected to define key areas of thought leadership while advancing key business objectives.

The initiatives and objectives described on the following pages are practical and achievable. They advance the overall mission and vision of the Atlanta BeltLine by ensuring the efficient and effective utilization of ABI's physical, financial and human resources throughout all we do. We also hope through our efforts to spark a broader dialogue among our partners, contractors and other organizations across the Atlanta region regarding best management practices in sustainability.

This SAP is a living document, brought to life by the commitment, energy and vision of ABI's employees and partners. We look forward to making it a reality and to continue supporting the City of Atlanta's goal to be a leader in sustainability.

Paul F. Morris, FASLA
President & CEO
Atlanta BeltLine, Inc.

EXECUTIVE SUMMARY

Atlanta made a community-based decision in 2005 to advance the Atlanta BeltLine, originating as a Master's thesis, in the largest, most comprehensive and most "sustainable" redevelopment project in the city's history. The Atlanta BeltLine represents a once-in-a-generation opportunity to renew the City of Atlanta.

Atlanta BeltLine Inc. (ABI) is the private non-profit development organization charged with implementing the Atlanta BeltLine program of projects. In December 2013, ABI released the Atlanta BeltLine 2030 Strategic Implementation Plan (SIP), a flexible strategy that will guide the short- and long-term elements of the Atlanta BeltLine program of projects. This SIP called for several supporting action plans that would provide supporting guidance in key operational areas—including this Sustainability Action Plan (SAP).

Sustainability for ABI Means:
Identifying and implementing solutions to the Atlanta's environmental, economic and social challenges.

ABI pursues sustainable outcomes via its people and workplace, internal processes, program of projects and external partnerships.

Sustainability is not a new concept for ABI. This SAP pulls together years of discussion and effort into a coherent definition and framework that clarifies what ABI means by sustainability, why it matters, and how it will be accomplished.

This SAP was developed collaboratively by ABI staff with guidance from KKH Consulting and Southface, national experts in sustainability strategy and green building. Rather than applying a cookie-cutter approach, the SAP was designed from the ground up to match ABI's unique challenges and way of doing business.

Few, if any, organizations adopt sustainability goals and practices simply out of altruism. Instead, the strategic benefit must be clear—especially the economic rationale. The organization must also "buy-in" to the idea that integrating sustainable practices is related to their own integrity as an organization, demonstrating accountability and transparency.

This SAP process began by recognizing the necessity of a strong rationale for sustainability, with a detailed exploration of why "sustainability" is relevant to ABI's daily work and its business objectives. This "why" conversation resulted in a set of business imperatives, used throughout plan development to explain the economic rationale and help select and prioritize initiatives.

This plan outlines a total of eight sustainability initiatives, representing a balance between internally- and externally-focused activities. This SAP does not encompass the universe of sustainable practices in organizational management or project development. Instead, initiatives were chosen and designed in the context of ABI's organizational values and structure, its specific set of resources (people, facilities, real estate) and its practical constraints (mission, staff time, budget). The result is a tailored plan that makes practical sense for this organization and the program of projects.

Business Imperatives
Each commitment in the SAP advances one or more of these business objectives:
- *Improve efficiency and reduce costs*
- *Increase revenues*
- *Engage employees*
- *Reduce and manage risks*
- *Strengthen brand and thought leadership*

ABI's SAP will help guide, track and communicate progress toward sustainability, both within the ABI organization and in the Atlanta BeltLine program of projects. This SAP also provides a mechanism for ABI to acknowledge and communicate "sustainable" outcomes that already exist as part of its inherent scope of business.

Benchmarking and tracking is key to the success of this plan. To help set performance benchmarks, ABI will leverage existing third-party sustainability guidelines where appropriate, evaluating progress against selected criteria over time. In some cases, when a specific sustainability threshold is reached that will signal success; in other cases, ABI will reach a threshold only to set a new one.

Each of the eight initiatives will be led by a senior member of ABI's staff. These sustainability leaders will be responsible for advancing all the components of their initiative, assigning other staff as needed, collaborating with other initiative leaders and tracking and reporting progress.

The heart of this SAP is the eight-page Sustainability Action Plan itself. The plan is supported by two appendices. Appendix A is a series of best practice documents providing additional detail and success stories to support some of the practices called for in the SAP. (Refer to the footer at the bottom of each SAP initiative page to see which best practices are relevant.) Appendix B is the Value Proposition, which summarizes the purpose and origination of the SAP (or the "why" conversation referenced above).

ABI's SAP directly supports the City of Atlanta's Office of Sustainability and its Power to Change plan. ABI's 8 Sustainability Initiatives align with many of the City's 10 Sustainability Impact Areas, including "Transportation and Mobility," "Energy Efficiency and Renewables," "Community Health and Vitality," "Materials Management and Recycling" and "Water Management." ABI, through the implementation of this SAP, will join and collaborate with City of Atlanta departments and other local, regional and state partners who are putting these goals into action.

The eight initiatives described on the following pages are practical and achievable. They advance the overall mission and vision of the Atlanta BeltLine by ensuring the efficient and effective management of ABI's physical, financial and human resources. In the process, these activities also spark continued dialogue regarding best management practices and new relationships with partners, contractors and other organizations.

This is a living document that will become reality through the commitment, energy and vision of ABI's employees in ongoing partnership with grassroots advocates, business, civic, political and community leaders. Through daily implementation, this SAP will help guide ABI and the Atlanta BeltLine toward a more sustainable city, creating in the process a national model of healthier, more sustainable, interconnected neighborhoods with greater mobility and economic opportunity for all.

PEOPLE, WORKPLACE and INTERNAL PROCESSES

INITIATIVE 1 | Reduce Environmental Footprint of ABI Offices

In order to reduce ABI's consumption of energy, water and materials in its offices, ABI will undertake an initiative in three parts:

1.1 Energy and Water Conservation Measures

As part of ABI's permanent office space, complete the following critical actions:

- Retro-commission mechanical equipment (HVAC)
- Install low-flow plumbing fixtures.
- Sub-meter electricity, natural gas and water.
- Install advanced environmental controls.

1.2 Create and implement an **IT Efficiency Policy** to reduce energy consumption via equipment selection and automated settings.

1.3 Create and implement a **Digital Workplace** supported by automated processes, streamlined workflow and mobile electronic resources. Identify the top 3 inefficient, paper-intensive processes at ABI and transition these to fully digital processes. Train staff on the use of all systems, processes and equipment (printer, copier, scanner, etc.) to support a digital workplace. Explore feasiblity of employees using their own devices.

ABI's Director of Real Estate will lead this initiative.

ABI BUSINESS IMPERATIVES	PRIORITY LEVEL

- ✓ **Improve Efficiency/Reduce Costs**
- • Increase Revenue
- ✓ **Engage Employees**
- • Reduce and Manage Risks
- ✓ **Strengthen Brand/Thought Leadership**

Low　Medium　**High**

TASK	PROPOSED TARGETS	PROPOSED METRICS	6-MONTH ACTION
1.1 Energy & Water Conservation	25% reduction in water, electricity and natural gas	CCF (water), kWh (electricity), therms (natural gas)	Install measures; Establish baseline for new office
1.2 IT Efficiency	All EnergyStar appliances, all devices "sleep" overnight	% EnergyStar appliances, % compliance with energy-saving settings	Inventory equipment; Draft policy
1.3 Paperless Office	25% reduction in paper use 3 newly automated/digital processes	Paper reams, # of automated/digital processes	Establish baseline; Determine 3 process initiatives

PEOPLE, WORKPLACE and INTERNAL PROCESSES

INITIATIVE 2 | Resource Management: Assets, Facilities and Equipment

In order to reduce ABI's costs and further reduce its consumption of energy, water and materials, ABI will undertake five related tasks:

2.1 **Expand Procurement Responsibilities** to establish and manage a comprehensive inventory of ABI's office supplies, materials and equipment. Establish responsibilities and communicate relevant procedures to all staff and relevant partners.

2.2 Create an **Environmentally Preferable Purchasing (EPP) Policy*** to guide all of ABI's purchasing decisions, including event planning, enforced by the Procurement Officer and Program Director.

2.3 Create a **Waste Stream Policy (WSP)*** to establish feasible and responsible disposal policies for the waste stream from ABI's offices, facilities and equipment. Consider composting via Compost Wheels, recycling, reusing/donating and other lifecycle considerations.

2.4 Conduct **EPP/WSP staff training** to educate staff about the importance and proper execution of sustainable procurement and disposal practices.

2.5 Explore opportunities for **cooperative contracts** to avoid the bidding process for multiple service needs including: facilities management, transport, office supplies, office design and waste disposal.

ABI's Chief Operations Officer will lead this initiative.

ABI BUSINESS IMPERATIVES

- ✓ **Improve Efficiency/Reduce Costs**
- • Increase Revenue
- • Engage Employees
- • Reduce and Manage Risks
- ✓ **Strengthen Brand/Thought Leadership**

PRIORITY LEVEL

Low Medium **High**

TASK	PROPOSED TARGETS	PROPOSED METRICS	6-MONTH ACTION
2.1 Internal Procurement Officer (IPO)	Officer handles all internal purchasing	% of purchasing conducted by IPO	Establish position; conduct initial inventory
2.2 Environmental Purchasing Policy (EPP)	100% of internal purchasing meets EPP targets	*See Appendix B*	Draft and approve EPP
2.3 Waste Stream Policy (WSP)	100% of office waste complies with policy	% or lbs of waste to trash, compost and recycling	Draft and approve WSP
2.4 EPP/WSP Training	100% of staff receive training	% of staff attended	Draft training based on new EPP
2.5 Cooperative Contracting	25% of ABI contracts are cooperative	% of contracts	Research feasibility, bid on 1 contract (?)

PEOPLE, WORKPLACE and INTERNAL PROCESSES

INITIATIVE 3 | Reduce Energy Use/Emissions from Staff Commuting & Travel

In order to reduce energy use and greenhouse gas emissions associated with employee travel patterns, ABI staff will undertake four related tasks:

3.1 **Establish baseline commuting and travel behavior** and associated environmental footprint.

3.2 Create and implement three complementary Travel Reduction Policies:
- **Alternative Commuting Incentive Policy** encouraging employee use of MARTA, biking, carpooling, streetcar, and other commuting options.
- **Vehicle Use Policy** for employee use of ABI vehicles.
- **Flexible Work Policy** with employee guidelines regarding telework, compressed workweek and flex time.

3.3 Train all staff on the use of **virtual meeting technology** to reduce work-related travel.

3.4 Conduct a **regular employee survey** to monitor data and determine effectiveness of incentives over time, adjusting as needed.

ABI's Director of Transportation will lead this initiative.

ABI BUSINESS IMPERATIVES
• Improve Efficiency/Reduce Costs
• Increase Revenue
✓ **Engage Employees**
• Reduce and Manage Risks
✓ **Strengthen Brand/Thought Leadership**

PRIORITY LEVEL

Low — Medium — **High** (Medium circled)

TASK	PROPOSED TARGETS	PROPOSED METRICS	6-MONTH ACTION
3.1 Baseline Survey	Survey all employees	% of staff surveyed	Conduct survey & prepare baseline data
3.2 Alternative Commute, Flexible Work & Vehicle Policies	By 2016: **50%** of employees utilize alternative commuting or work from home 1-2 days/wk. **10%** reduction in work travel through the use of virtual meetings. By 2017: **75%** and **15%**.	VMT, CO_2/GHG saved, $ saved, adoption rate, number of employees participating	Draft and approve three-part Travel Reduction Policy
3.3 Virtual Meeting Training			Complete virtual meeting training for all staff
3.4 Regular Employee Survey			Establish survey mechanism and frequency

Image credit: http://www.dart.org/riding/bike.asp

PEOPLE, WORKPLACE and INTERNAL PROCESSES

INITIATIVE 4 | Engage, Support and Connect Employees

In order to improve the efficiency, productivity and retention of its staff, ABI will:

4.1 Ensure that the permanent office renovation provides a **comfortable, productive and healthy work environment** via indoor environmental quality (IEQ), ventilation, passive solar design/daylighting and temperature controls, as well as office design for cross-team collaboration and ample flex meeting space.

4.2 Create and implement a cost-effective **Professional Training & Development Program** including lunch-and-learns, internal mentoring, external mentoring (perhaps via a mentoring exchange), and employee-specific plans for training and development incorporated as part of more regular performance reviews.

4.3 Create and implement a **Staff Engagement Policy** with guidelines for ABI staff to regularly visit project sites,

attend external Atlanta BeltLine events, and engage with stakeholder groups. Clarify which events are job expectations vs. social/enrichment opportunities.

4.4 Work with ABI communications staff to improve **internal communication** channels, including regular team building activities.

ABI's Director of Community Planning & Engagement will lead this initiative.

ABI BUSINESS IMPERATIVES
• Improve Efficiency/Reduce Costs
• Increase Revenue
✓ **Engage Employees**
✓ **Reduce and Manage Risks**
• Strengthen Brand/Thought Leadership

PRIORITY LEVEL

Low ‹ Medium › **High**

TASK	PROPOSED TARGETS	PROPOSED METRICS	6-MONTH ACTION
4.1 Work Environment	Office renovation achieves LEED "points" for IEQ, daylight, comfort.	Indoor air third-party testing; LEED-CI Gold	Pursue related LEED-CI "points" during office renovation
4.2 Professional Development & Training (PD&T) Program	50% average staff participation in lunch-and-learns; 100% staff have a personalized PD&T plan and participate in mentoring	# and attendance at lunch-and-learns, % of staff with PD&T plan, # internal coaching meetings, # CEUs	Create PD&T work plan; Schedule first lunch-and-learn
4.3 Staff Engagement Policy	75% of ABI staff attend 1 site visit AND 1 event quarterly	% of staff participation, # all-staff site visits	Draft and approve policy
4.4 Internal communications	100% staff satisfaction (survey) re: internal meetings/updates	# and type of meetings, # internal newsletters, # team building activities	1st internal newsletter, Redesign all-staff meeting, Plan for team building

PROGRAM OF PROJECTS AND EXTERNAL PARTNERSHIPS

INITIATIVE 5 | Create and Enforce ABI Project Sustainability Guidelines

In order to ensure that the Atlanta BeltLine program of projects are best-in-class examples of sustainable infrastructure and redevelopment, ABI will expand project management and monitoring to include community benefits and other sustainability-related targets. The **Sustainability Guidelines Working Group** will be responsible for the following tasks:

5.1 Develop **ABI Project Sustainability Guidelines**, drawing from the Typologies and other established criteria, and clarifying guidelines by project type. Incorporate into specs and train all staff and partners.

5.2 Develop a **Sustainability Implementation Plan template**, adapting the Guidelines to set targets and track progress for individual projects. Require project managers and/or contractors to fill out this template at the beginning of each project and update it regularly as part of project management and monitoring.

5.3 Provide written guidance and training on **management strategies** including integrated design and alternative project delivery methods to successfully implement these plans. Ensure consistent **procurement standards** are used for project materials, across all funding sources.

5.4 Develop language to contractually **enforce the ABI Project Sustainability Guidelines** in agreements with contractors and partners. Examine potential impacts to contractors (including DBE). Implement language into RFPs and other project documents.

ABI's Director of Program Management will lead this initiative.

ABI BUSINESS IMPERATIVES

- ✓ **Improve Efficiency/Reduce Costs**
- ✓ **Increase Revenue**
- • Engage Employees
- ✓ **Reduce and Manage Risks**
- ✓ **Strengthen Brand/Thought Leadership**

PRIORITY LEVEL

Low > Medium > **High**

TASK	PROPOSED TARGETS		PROPOSED METRICS	6-MONTH ACTION
Sustainability Guidelines Working Group				Staff assignments
5.1 Create ABI Project Sustainability Guidelines	By 2016, 100% of projects comply with guidelines and template. By 2017, 50% of projects also use management strategies and contractual language to support guideline implementation.		% of projects meeting guidelines, # of templates completed/frequency of updates, project impacts: reduced energy, water, materials; # affordable units & local jobs created	Draft guidelines. Create template when complete.
5.2 Sustainability Implementation Plan Template				
5.3 Management Strategies			% of projects using integrated design, alternative bidding, etc.	Draft guidance
5.4 Contractual language			% of projects enforcing guidelines via contractual language	Consult with legal team

PROGRAM OF PROJECTS AND EXTERNAL PARTNERSHIPS

## INITIATIVE 6 | Provide Incentives for Sustainable Project Outcomes

In order to remove initial funding barriers associated with innovative materials and features (environmental, social and economic), ABI will create an **Incentives Working Group** to undertake the following tasks:

6.1 Identify a **Suite of Incentives** that ABI and its partners can offer to projects and developers who successfully implement the ABI Sustainability Guidelines. Consider potential regulatory, technical, design and/or land benefits, including discounts, offsets and in-kind donations, provided by ABI, the City of Atlanta, and/or external partners (see Incentive 6). Designate a liason staff position to coordinate incentives and track benefits.

6.2 Create a **Revolving Fund** to lower first costs of sustainable projects and features. After investigating feasibility, initial investment sources, mechanics and lessons learned from similar programs, the Incentives Working Group will prepare a fund propsoal for ABI leadership, which will include recommended **investment thresholds and criteria** such as:

- Potential to decrease resource consumption
- Initial capital costs
- Lifecycle costs
- Payback period
- Long-term risk analysis
- Stakeholder/social considerations
- Other available incentives/entitlements

ABI's Director of Economic Development will lead this initiative.
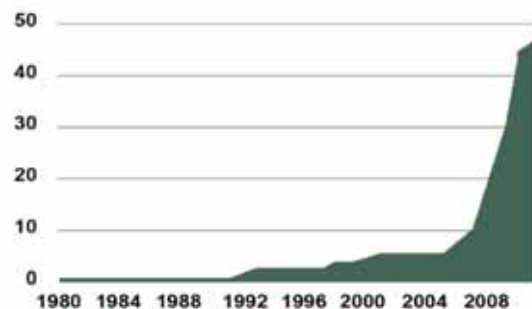
Number of Green Revolving Funds

ABI BUSINESS IMPERATIVES	PRIORITY LEVEL

- **Improve Efficiency/Reduce Costs**
- **Increase Revenue**
- Engage Employees
- **Reduce and Manage Risks**
- **Strengthen Brand**

Low → Medium → **High**

TASK	PROPOSED TARGETS	PROPOSED METRICS	6-MONTH ACTION
Revolving Fund Working Group & Incentive Liaison			Staff assignments
6.1 Suite of Incentives	50% of projects utilize incentives.	Amount of funding available ($), # applications, # projects funded in Y1 (2017-2018), return on investment, resource savings (GHG/ energy, water, materials), social/stakeholder value (jobs created, # affordable units)	Conduct research, present initial incentives and fund proposal to ABI leadership
6.2 Revolving Fund	Establish fund by 2017. Award funding to three projects within the BeltLine Planning Overlay during Y1.		

Image credit:
Sustainable Endowments Institute, 2011

PROGRAM OF PROJECTS AND EXTERNAL PARTNERSHIPS

INITIATIVE 7 | Communicate ABI's Sustainability Goals & Achievements

Clearly communicating ABI's sustainability goals and achievements both internally and externally will help establish realistic expectations and celebrate successes. The following tasks relate to this initiative:

7.1 Explicitly **communicate ABI's sustainability goals, programs and successes** to employees, stakeholders, partners and the general public. Utilize a wide variety of communications tools to reach all demographics, including reports, articles, radio, social media, Atlanta BeltLine tours, signage, events and festivals, and all presentations given by ABI staff.

7.2 Track the **social, economic and environmental return on investment** provided by the Atlanta BeltLine in its planning areas. Establish indicators to demonstrate the impacts of this infrastructure program.

Track these over time; develop an **ABI sustainability scorecard** to visualize and communicate progress.

ABI's Director of Communications and Media Relations will lead this initiative.

ABI BUSINESS IMPERATIVES

- Improve Efficiency/Reduce Costs
- Increase Revenue
- ✓ **Engage Employees**
- ✓ **Reduce and Manage Risks**
- ✓ **Strengthen Brand/Thought Leadership**

PRIORITY LEVEL

Low   Medium   **High**

TASK	PROPOSED TARGETS	PROPOSED METRICS	6-MONTH ACTION
7.1 ABI Sustainability Communications	100% of relevant communications reference ABI sustainability program	% of internal and external communications referencing SAP; social media response (likes/Tweets)	Create a plan to infuse sustainability education in all messaging. Add SAP slides to standard ABI overview presentation.
7.2 ROI / ABI Sustainability Scorecard	Monitor ROI indicators in BeltLine Planning Areas by 2016	Change in assessed values, jobs created, reduced vehicle miles traveled, increased resident walking/biking, etc.	Design scorecard. Research data availability; create a plan for tracking and reporting.

PROGRAM OF PROJECTS AND EXTERNAL PARTNERSHIPS

INITIATIVE 8 | Establish Strategic Partnerships

ABI will enrich its staff and projects by forming official partnerships with organizations such as USGBC, ULI-Livable Communities Council, U.S. EPA, Southface, and other local, state and federal agencies, including affordable housing and workforce development agencies. The **Strategic Partnerships Working Group** will approach this initiative via the following tasks:

8.1 Conduct **research and outreach** to determine potential synergies and benefits of organization-level partnerships. Following ABI leadership approval, **establish and formalize** key relationships through MOUs and other agreements.

8.2 Leverage partner expertise for **continuing education of ABI staff** on environmental and social sustainability topics via brownbag lunch series, conference participation, etc.

8.3 Leverage partner expertise for **contractor training** on sustainability topics.

8.4 Coordinate with partner organizations and ABI project managers to implement specific **demonstration/pilot projects** on the Atlanta BeltLine, including affordable housing. Explore potential grants, donations, cost savings and other resources available via partner organizations.

ABI's Director of Government Affairs will lead this inititiave.

ABI BUSINESS IMPERATIVES

- ✓ **Improve Efficiency/Reduce Costs**
- ✓ **Increase Revenue**
- • Engage Employees
- ✓ **Reduce and Manage Risks**
- ✓ **Strengthen Brand/Thought Leadership**

PRIORITY LEVEL

Low > Medium > **High**

TASK	PROPOSED TARGETS	PROPOSED METRICS	6-MONTH ACTION
Strategic Partnerships Working Group			Staff assignments
8.1 Form partnerships	3+ active strategic partnerships by 2016	# of executed MOUs	Research and initial outreach. Propose partners to ABI leadership based on potential for continuing education, contractor training, & effective demonstration/pilot projects
8.2 Staff continuing education w/ partners	Host 3 continuing education events for staff by 2016	# continuing education events and staff attending	
8.3 Contractor training by partners	Coordinate 3 contractor trainings by 2016	# of trainings, partners & contractors participating, # hours/credentials	
8.4 Demonstration/ pilot projects	Implement one project by 2017	$ leveraged funding, project size/scope, resource savings	

APPENDIX A: BEST PRACTICES

SUSTAINABILITY FELLOW

OVERVIEW & CHARACTERISTICS

Sustainability should be seen as integral to delivery of an organization's work, not as an add-on responsibility. A fellowship dedicated to implementation of a sustainability plan can provide valuable program support and help integrate the principles and practices of sustainability across an organization. This position can be a one to two year fellowship designed to advance initiatives related to water and resource conservation, stormwater management, waste reduction and recycling, sustainable transportation and office sustainability behaviors and practices. Hiring a sustainability fellow provides internal quality assurance and accountability as well as an external sustainability representative available to interact with the public as desired. Specific duties can include the following:

- Participate in marketing and promotion of sustainability programs and projects through social media and website, awards and community events
- Provide assistance in gathering and analyzing environmental impact including greenhouse gas reporting
- Develop and submit grant applications to support and further develop sustainability programs
- Administer office sustainability practices

SUCCESS STORIES

Agnes Scott College

Located in Decatur, Georgia, this small college has an entire sustainability team, complete with a director, an advisor, two fellows and interns. The school committed to campus sustainability when they signed the American College & University Presidents' Climate Commitment (ACUPCC) in 2007. With the help of their fellows and interns, the college was able to gather data to complete an entire greenhouse gas inventory in 2008 and submitted the inventory to the ACUPCC. This greenhouse gas inventory gave structure and breadth for a climate action plan. Agnes

During Fiscal Year 2007-2008, Agnes Scott became a charter signatory of ACUPCC, completed their first greenhouse gas inventory and hired their first sustainability fellow in conjunction with the City of Decatur, Georgia.
Source: ACUPCC (http://rs.acupcc.org/progress/1093/)

Scott's climate action plan was completed and submitted to the ACUPCC in 2009, with a projected deadline of 2037 to become a climate neutral campus.

City of Evanston
See the following pages for a job description for a two-year sustainability fellowship from the City Manager's Office in Evanston, Illinois.

RESOURCES

Agnes Scott College Office of Sustainability. "Energy at Agnes Scott." *Agnesscott.edu.*
Agnes Scott College, 1 Jan. 2014. Web. 2 Apr. 2015.
http://www.agnesscott.edu/sustainability/energy/index.html

American College & University President's Climate Commitment . "Progress Report for Agnes Scott College." *Acupcc.org.* ACUPCC Reporting System, 15 Jan. 2014. Web. 2 Apr. 2015. http://rs.acupcc.org/progress/1093/

S. L. King Technologies, Inc., Southface, AVID Energy, Bethea Associates, CHA, Fox Environmental, and The Collaborative Firm. "DeKalb County Long-Range Comprehensive Energy and Sustainability Plan." S.L. King Technologies. DeKalb County, 2011. Print.

Example of Job Description (Source: City of Evanston, IL, City Manager's Office)

NATURE OF WORK:
This position is a two year fellowship in the Evanston Office of Sustainability to assist in the implementation of the Evanston Climate Action Plan and other relevant plans within City operations and in the wider Evanston community with the goal of supporting the City's strategic goal of "Creating the Most Livable City in America". Work includes formalizing and supporting programs related to water conservation, stormwater management, waste reduction and recycling and sustainable transportation. The fellowship also includes participating in marketing and promoting of the City of Evanston's sustainability programs and projects through social media and website, awards and community events; providing assistance in gathering and analyzing Evanston's environmental impact including greenhouse gas reporting; and developing and submitting grant applications to support the City's sustainability projects and programs.

The City of Evanston seeks to provide a compelling and comprehensive work experience for a self-motivated individual interested in pursuing a career in local government sustainability. The Sustainability Fellow will be engaged in meaningful projects that will prepare him/her for a successful career in professional local government sustainability, expose him/her to innovative and cutting edge ideas & best practices, and allow him/her to use their talents and abilities to benefit the City and the community in lasting ways.

ESSENTIAL FUNCTIONS (Specific assignment will include some or all of the following):
- Researches, and applies for, applicable grants in order to further develop and improve the City's sustainability initiatives.
- Develops and administers community education and outreach programs on waste reduction and recycling, including specific outreach to multi-family properties and businesses and participation in Evanston's annual Recycling Fair.
- Implements programs, projects and outreach initiatives to support Evanston's Water Conservation and Efficiency Plan including the development of a business plan and implementation strategy for a rain barrel incentive program and high efficiency toilet incentive program.
- Supports Evanston's Green Mobility Plan including the on-going pursuit to develop a bicycle share program for Evanston and engage with community partners to promote a behavior change campaign around green and healthy mobility alternatives.
- Supports Evanston's on-going participation in the STAR Communities Rating System by coordinating with various City departments on recording performance data, documenting best practices for reporting into the STAR Communities framework.
- Assists departments in implementing best practices in sustainable operations by acting as a resource and coordinating activities across and within City departments, the public and other organizations on programs and policies related to the Office of Sustainability, specifically in the areas of resource conservation, transportation, pollution prevention, and climate adaptation.

- Supports completion of annual progress summary of the City's Climate Action Plan implementation and implementation of other sustainability initiatives.
- Supports completion of annual progress summary of the City's Complete and Green Network policy implementation for city infrastructure projects.
- Represents the City at external meetings, and reports back to the Sustainable Programs Coordinator on activity of external organizations and committees. May make presentations and/or represent the Office of Sustainability at meetings of City Boards and Commissions and civic or professional groups. Required meetings may be held outside of normal business hours.
- Conducts research studies and surveys and produces reports recommending appropriate courses of action for solutions to environmental/sustainability problems and makes public presentations as needed.
- Raise public awareness of environmental initiatives within the City of Evanston, including the update and maintenance of Evanston Sustainability webpages; contributions to Evanston's sustainability social networking tools including EvanstonGreenBuzz.org, Twitter, Google Groups, etc. and effective employment of email-based communications for Sustainability events, announcements, etc.
- Assist, as needed, the Sustainable Programs Coordinator in preparation of Power Point presentations and supporting materials for presentation to City Council, Committee meetings, key environmental groups, and/or other special interest groups.
- Performs other duties as assigned.

MINIMUM REQUIREMENTS OF WORK:

This position requires an undergraduate degree in natural or environmental science or education, engineering, social or public policy or a related field or an associates degree in related fields and two years work experience including administrative, planning, public education and outreach, research and analysis, and project management; or any combination of training and experience that provides the following knowledge, abilities and skills:

- Working knowledge of issues, laws, regulations and trends related to sustainability, including resource conservation, transportation, pollution prevention, climate adaptation and public health protection.
- Ability to communicate effectively both orally and in writing; including making presentations to a variety of audiences throughout the City and community.
- Ability to identify, analyze and problem solve, assisting departments in incorporating sustainable practices into the organization.
- Ability to research, develop, implement and evaluate projects and programs and implement new initiatives in a seamless fashion.
- Ability to work as part of a team to carry out the mission and goals of the City of Evanston and Office of Sustainability
- Ability to engage in Innovative, creative, and resourceful thinking and strong problem solving skills
- Ability to coordinate and monitor interns and/or volunteers, as required and provide effective project management oversight.
- Ability to work with and relate to a diverse group of citizens from varying socioeconomic and ethnic backgrounds.

- Ability to meet deadlines and accept and coordinate changes in project schedules.
- Ability to establish and maintain effective working relationships with all levels of City employees, the general public, City boards and commissions, other agencies and contractors.
- Considerable knowledge of and ability to use Internet search engines, word processing software, photo and graphic related software, email, Windows operating systems, and social media tools.

SUPERVISION:

The Sustainability Fellow reports to the Sustainable Programs Coordinator who mentors and outlines work assignments, reviews work in progress, and assess completed work on a project specific basis. Guidance is provided via the strategic plan, City Code, City policies and procedures, applicable state and federal laws and regulations, as well as a wide variety of information relating to sustainable practices, ensuring that initiatives meet legal requirements. Works closely with all relevant departments/divisions, especially Public Works Department and Utilities Department to advance sustainable water, energy and transportation projects. Work is evaluated quarterly with respect to progress toward achieving goals, leadership, communication skills, customer service, ability to work productively and effectively with employees at all levels in the organization as well as community groups, businesses, major employers and the general public.

PUBLIC CONTACT:

The employee has regular and frequent contact with department and division employees and other City employees; regular contact with individual citizens and groups, including business associations; and occasional contact with elected officials.

BEST PRACTICES

RESPONSIBLE PROCUREMENT OF IT INFRASTRUCTURE

OVERVIEW & CHARACTERISTICS

A policy governing the purchase of IT hardware assets is intended to contribute to an environmentally responsible approach to procurement. The policy would apply to individuals responsible for hardware selection (e.g. IT support coordinator, procurement officer, manager of operations). This policy applies to all computing and network related hardware installed, including but not limited to:

- Desktops, laptops and servers
- Peripheral equipment (e.g. monitors, printers and scanners)
- Audio-visual equipment such as plasma screens, cameras and projectors
- Telephone handsets
- Televisions, cable and sky boxes
- Network hardware

The value of adopting a procurement policy is to decrease spending on IT infrastructure and to alleviate environmental damage related to manufacturing equipment (e.g. conserve natural resources and protect the environment and public health). An effective policy that upholds cost-saving and environmentally responsible characteristics should include the following principles:

- The ultimate responsible procurement policy is avoiding the purchase altogether.
- Devices purchased should be ENERGY STAR compliant, LEED compliant or better.
- Preference should be given to products that are Electronic Product Environmental Assessment Tools (EPEAT) rated (at least bronze level).

> *"The ultimate goal within a responsible IT procurement policy is to avoid the purchase altogether."*
>
> Source: Catlin Group Limited

- Preference should be given to manufacturers that have take-back programs for reuse of parts and scraps to make re-purposed equipment.
- The IT systems team should take responsibility for the disposal of all IT hardware.
- Recycling of IT equipment should occur in accordance with local legislation and appropriate security procedures.

- All electronics must be disposed of properly in line with RCRA (Resource Conservation and Recovery Act) hazardous and toxic substance disposal methods.

SUCCESS STORIES

ENERGY STAR-Qualified Servers

In most office environments, computers are at the core of data centers, which consume substantial energy directly and produce waste heat. This waste heat then requires more air conditioning, increasing utility costs. Throughout the past decade technological advancements in server efficiencies have led to higher performance workload rates and decreased energy consumption. Because of this strong advancement trend in IT servers, ENERGY STAR released its first efficiency standards for servers in 2009[1]. This development prompted a comparison study of non-green "G5" server infrastructure and the ENERGY STAR-qualified "G6" server infrastructure. Results from ENERGY STAR showed that on average, the energy efficient server consumed 26 percent less power than the inefficient server. The energy efficient server also delivered a performance-to-power, or power efficiency, that was on average 271 percent higher than the inefficient server[1].
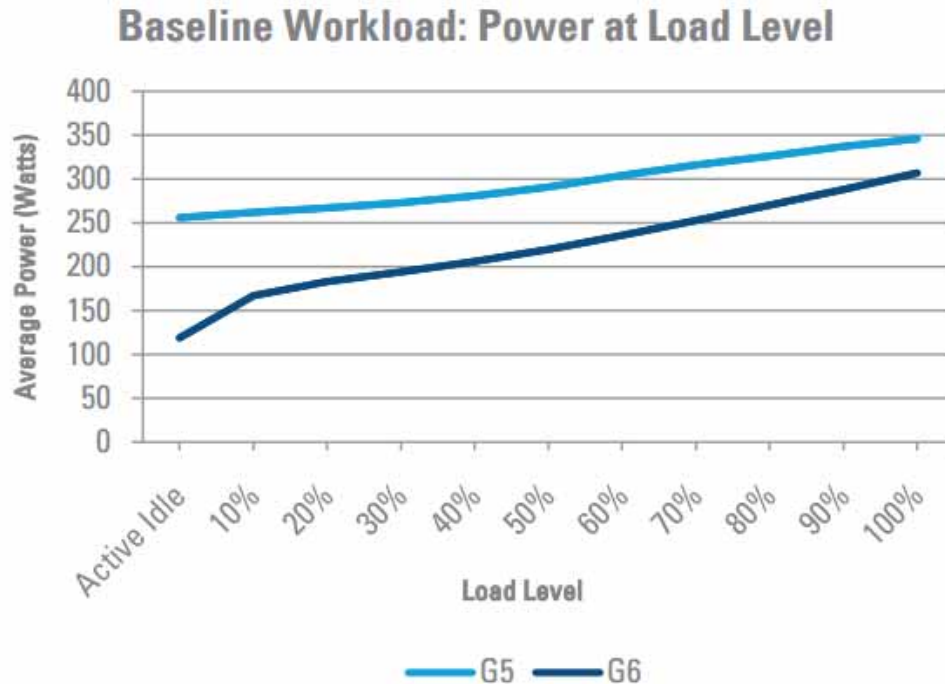
(ENERGY STAR, 2010)

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[1] See http://www.energystar.gov/ia/products/downloads/ES_server_case_study.pdf

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Catlin Group Limited. "Corporate Responsibility Report 2012." N.p. Catlin Group Limited, 2012. Print.

Catlin Group Limited. "Sustainable Purchasing Policy." N.p. Catlin Group Limited, 2012. Print.

United States Environmental Protection Agency. "Energy Savings from ENERGY STAR-Qualified Servers." Energystar.com. ENERGY STAR, 2010. Web. 2 Apr. 2015. http://www.energystar.gov/ia/products/downloads/ES_server_case_study.pdf

BEST PRACTICES

HIGH-EFFICIENCY PUBLIC SPACE LIGHTING

OVERVIEW & CHARACTERISTICS

High-Efficiency Public Space Lighting reduces energy costs, enhances public safety, improves transportation safety, directs light to where it is needed, distributes illumination evenly, and enhances the aesthetic value of public spaces via either new installations or retrofits. Utilizing high-efficiency lighting in public spaces aligns well with city energy efficiency initiatives and goals to reduce hazardous materials and other environmental impacts. Outdoor lighting ordinances and codes are now adopting the concept of *e-zones* which account for energy efficient lighting applications in public spaces to reduce the environmental impact of lighting. Ordinances and local standards will vary by location and local zoning departments should be engaged prior to implementing a public space lighting project.[1] On a city or district scale, the mayor's office and the department of public works should:

- Establish collaborative partnerships with national or local organizations knowledgeable about public space lighting technology, financing, and public private implementation models.
- Fund projects through a combination of energy rebates and a street lighting assessment fund which could be repaid in less than ten (10) years from savings in energy and maintenance costs.
- Track metrics associated with reductions in energy use, maintenance and energy cost savings, and greenhouse gas emissions.[2]

SUCCESS STORIES

Los Angeles, California

In 2009, the City of Los Angeles in partnership with the Clinton Climate Initiative announced they would develop the most expansive light emitting diode (LED) green street light program ever initiated by a city. The program was started in response to the high energy and operations costs for the 140,000 streetlights in the city. Street lighting receives $42 million annually from the Street Lighting Maintenance Assessment Fund. The fund was intended to cover costs associated with operation and maintenance, energy, material, labor, and fleet expenses. Local policies prohibit the city from adjusting the fund to correspond with inflation and meet operational costs, resulting in a projected future deficit of $10 million annually. The Bureau of Street Lighting requested a $48.5 million loan for

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[1] EPA, and ENERGY STAR.2012 "Lighting." Retrieved from: http://www.energystar.gov/ia/business/EPA_BUM_CH6_Lighting.pdf (Accessed July 2012).
[2] NYC Global Partners, and City of Los Angeles.2011. "Best Practice: Los Angeles LED Street Lighting System." Retrieved from: http://www.nyc.gov/html/unccp/gprb/downloads/pdf/LA_LEDstreetlights.pdf (Accessed July 2012).

the five (5) year project with the loan being repaid in the eighth year. Retrofitting the street lighting system has resulted in the following reductions:[3]

- Energy: 57.6% or 68,648,000 kWh
- CO_2: 8,674 metric tons
- Costs: $1,297,173 saved[4]

San Diego, California

In 2009, the San Diego Regional Peer-to-Peer Street Lighting Working Group (SLWG) was established with funding from California's Energy Efficiency Public Goods Charge Program and sponsored by San Diego Gas & Electric (SDG&E). The SLWG meets every 2-3 weeks to collaborate and share best practices to retrofit 145,000 street lights in the SDG&E service area. The collaboration process provided some valuable lessons for the successful implementation of a street lighting retrofit, which include:

- Staying "technology neutral"
- Selecting an independent, non-biased group leader
- Appointing a lead stakeholder to develop technology specifications
- Testing the technologies with public input
- Developing specifications before approaching manufacturers[5]

The first phase of the street lighting retrofit included four cities in SDG&E's service area and accounted for:

- 13,000 retrofits
- $5,000,000 in economic stimulus
- $1,000,000 in taxpayer savings
- 50 new jobs
- 30% reduction in street lighting energy use
- 6,000,000 kWh reduction
- 2,600 tons of CO_2 emissions reduced[6]

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[3] NYC Global Partners, and City of Los Angeles. 2011. "Best Practice: Los Angeles LED Street Lighting System." Retrieved from: http://www.nyc.gov/html/unccp/gprb/downloads/pdf/LA_LEDstreetlights.pdf (Accessed July 2012).

[4] NYC Global Partners, and City of Los Angeles. 2011. "Best Practice: Los Angeles LED Street Lighting System." Retrieved from: http://www.nyc.gov/html/unccp/gprb/downloads/pdf/LA_LEDstreetlights.pdf (Accessed July 2012); Savings calculated from installing 36,500 LED's as of February 2011

[5] LGC, CleanTECH San Diego, and California Public Utilities Commission.2010. "San Diego Regional Peer-to-Peer Street Lighting Working Group." Retrieved from: http://www.lgc.org/freepub/docs/energy/case_studies/SD_SLWG.pdf (Accessed July 2012).

[6] LGC, CleanTECH San Diego, and California Public Utilities Commission.2010. "San Diego Regional Peer-to-Peer Street Lighting Working Group." Retrieved from: http://www.lgc.org/freepub/docs/energy/case_studies/SD_SLWG.pdf (Accessed July 2012).; Annual figures from LGC, CleanTECH San Diego, and California Public Utilities Commission

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EPA, and ENERGY STAR. "Lighting." *Energystar.gov.* Energy Star, Nov. 2006. Web. 2012.
 http://www.energystar.gov/ia/business/EPA_BUM_CH6_Lighting.pdf

NYC Global Partners, and City of Los Angeles. "Best Practice: Los Angeles LED Street
 Lighting System." Nyc.gov. New York City Global Partners, Feb. 2011. Web. 2012.
 http://www.nyc.gov/html/unccp/gprb/downloads/pdf/LA_LEDstreetlights.pdf

LGC, CleanTECH San Diego, and California Public Utilities Commission. "San Diego
 Regional Peer-to-Peer Street Lighting Working Group." Lgc.org. Local Government
 Energy Efficiency, 2010. Web. 2012.
 http://www.lgc.org/freepub/docs/energy/case_studies/SD_SLWG.pdf

BEST PRACTICES

ENVIRONMENTALLY PREFERABLE PURCHASING

OVERVIEW & CHARACTERISTICS

Environmentally Preferable Purchasing (EPP) integrates environmental considerations into all stages of the purchasing process to reduce an organization's impact on human health and the environment.[1] An EPP can address every transaction that is made by a business or organization for goods and services but typical programs include protocols for:[2]

- Office supplies
- Cleaning materials and cleaning service contracts
- Furniture, fixtures, and equipment
- Employee and supplier vehicles and other transportation
- Meeting materials and food
- Real estate and its construction or lease

Factors considered when determining if products or services are environmentally preferable may include:[3]

- How raw materials are acquired
- The production and manufacturing methods and location
- Product packaging
- Material content and composition
- The means of distribution
- The ability for reuse when the product is obsolete or damaged
- The energy and water efficiency performance of the product
- Operation and maintenance requirements
- A final disposal option when the item is no longer serviceable

SUCCESS STORIES

City of Santa Monica, CA

The City of Santa Monica, California has set a national standard and example for developing an Environmental Purchasing Program (EPP) within the structure of existing

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[1] Environmental Protection Agency. 2010. "Basic Information: Environmentally Preferable Purchasing." Retrieved from: http://www.epa.gov/oppt/epp/pubs/about/about.htm (Accessed July 2012).
[2] Environmental Protection Agency. 2010. "Basic Information: Environmentally Preferable Purchasing." Retrieved From: http://www.epa.gov/oppt/epp/pubs/about/about.htm (Accessed July 2012).
[3] Georgia Department of Natural Resources. "Module 2: Environmentally Preferable Purchasing (EPP)." Retrieved from: http://www1.gadnr.org/sustain/toolkit/modules_2_1.html (Accessed July 2012).

purchasing procedures and policies. The City's EPP is integrated into all purchasing aspects of a $30 million annual budget. Their system is embraced by multiple operational levels within the local government. The City of Santa Monica attributes its success to[4]:

- Having support from the top
- Including the end-users in the decision-making process
- Conducting up-front research
- Adopting a customized approach to purchasing
- Creating partnerships between environmental and purchasing staff
- Implementing pilot programs
- Providing hands-on training by experts
- Holding face-to-face meetings with vendors
- Maintaining flexibility
- Providing additional user training as needed
- Evaluating the program and planning next steps

Kaiser Permanente Environmental Stewardship Program

Kaiser Permanente has an Environmental Stewardship program covering Environmentally Responsible Purchasing, Green Buildings, Sustainable Operations, Transportation Systems Management, and comprehensive food and chemical policies. The environmental benefits at a program level have eliminated the purchase and disposal of over forty (40) tons of hazardous chemicals annually by[5]:

- Waste minimization
- Safe electronic equipment disposition
- Optimal reuse of single use products
- Capital equipment redistribution
- Greening janitorial cleaning products
- Examining pest management practices to reduce pesticides
- Recycling and reuse of solvents
- Eliminated mercury

RESOURCES

EPA. "Basic Information: Environmentally Preferable Purchasing." *EPA.gov.*
Environmental Protection Agency, 2010. Web. 2012.
http://www.epa.gov/oppt/epp/pubs/about/about.htm

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[4] Environmental Protection Agency. 1998."The City of Santa Monica's Environmental Purchasing: A Case Study." Retrieved from: http://www.epa.gov/epp/pubs/case/santa.pdf (Accessed July 2012).
[5] Kaiser Permanente. 2006. "Environmental Stewardship: Case Studies PowerPoint." Retrieved from: http://info.kaiserpermanente.org/communitybenefit/html/our_work/global/our_work_6_casestudies.html (Accessed July 2012).

EPA. "The City of Santa Monica's Environmental Purchasing: A Case Study." EPA.gov. Environmental Protection Agency, Mar. 1998. Web. 2012. http://www.epa.gov/epp/pubs/case/santa.pdf

Georgia Department of Natural Resources. "Module 2: Environmentally Preferable Purchasing (EPP)." P²AD. Georgia Department of Natural Resources, n.d. Web. 2012. http://www1.gadnr.org/sustain/toolkit/modules_2_1.html

Kaiser Permanente. "Environmental Stewardship: Case Studies PowerPoint." Kaiserpermanente.org. Kaiser Permanente, 2006. Web. 2012. http://info.kaiserpermanente.org/communitybenefit/html/our_work/global/our_work_6_casestudies.html

BEST PRACTICES

OFFICE WASTE REDUCTION

OVERVIEW & CHARACTERISTICS

Office Waste Reduction programs are a way for businesses to target those materials that are abundant in their waste stream and easily diverted from landfills. Frequently, this can be accomplished in a cost effective manner through proactive source separation. Waste reduction programs save money by conserving resources and reducing disposal costs. In addition to recycling, source reduction is a simple strategy to decrease office waste or institutional and commercial waste (ICW) by limiting the amount of materials which require a waste management policy. Office waste is made up of many materials that are readily divertible, of which the three most common categories,[1] representing almost 90 percent of total generated waste by weight, are as follows[2]:

- Paper products (54%)
- Plastics (12%)
- Organics (23%)

High ICW reduction may be easier to achieve than residential waste reduction as ICW tends to be more homogeneous and rich in recyclables.

Source: Environmental Protection Agency, 1999

SUCCESS STORIES

Federal Reserve Bank of Atlanta

The Atlanta Federal Reserve Bank, located in Midtown, adopted a five-year environmental plan which addresses the environmental impacts of nine (9) areas, of which recycling and waste reduction are two (2) that are included in the plan. The plan contains specific goals for recycling and waste reduction including a decrease in paper use and a comprehensive recycling program. The bank received recognition from the State of Georgia for measures taken to green their operations.

- Plan Established: 2010
- Waste Reduction: 20% paper use
- Recognition: 2010 Partnership for a Sustainable Georgia's Silver Award[3]

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[1] Glass & Metals are not considered common material categories (~3%)
[2] SCI, Sustainable Cities Institute. 2009. "Office Waste Reduction Programs." Retrieved from: http://www.sustainablecitiesinstitute.org/view/page.basic/class/feature.class/Lesson_Office_Waste_Reduction_Program (Accessed July 2012).
[3] Federal Reserve Bank of Atlanta.2010. "The Long Recovery in the Southeast: Federal Reserve Bank of Atlanta 2010 Annual Report." *Retrieved from:* http://www.frbatlanta.org/documents/pubs/annualreport/10ar.pdf (Accessed July 2012).

San Jose, CA

The City of San Jose, CA has a waste collection and processing system that will enable all businesses in the area to meet the state's mandatory commercial recycling requirements.[4] The city has contracted a single hauler to collect garbage, recycling, and organics from businesses. The waste hauler uses an innovative "wet/dry" system to enhance the waste services system. This binary system views waste as a resource and minimizes the amount of waste sent to the landfill.

- Established: July 2012
- Program Development: 500 businesses participated
- Recycling Rate: Increased from 25% to 80%[5]

Austin, TX

The City of Austin has committed to achieving reductions in per capita solid waste disposal to landfills and incinerators, and a more long-term goal of Zero Waste to landfills and incinerators. The Commercial Recycling Ordinance requires businesses and office buildings with 100 employees or more to provide on-site recycling for at least two recyclable materials. The ordinance has been updated and renamed The Universal Recycling Ordinance. It requires all commercial properties to recycle the following at a minimum: office paper, plastic #1 & 2, cardboard, aluminum, and glass.[6] Businesses and commercial properties are encouraged to go beyond the minimum by participating in the Zero Waste plan. The success of existing policies bodes well for Austin's continued waste reduction.[7]

- Commercial Recycling Ordinance Adopted: 1999
- Universal Recycling Ordinance Adopted: 2012
- Zero Waste Strategic Plan Adopted: 2009
- Zero Waste Diversion Rate Goals: 20% by 2012, 75% by 2020, and 90% by 2040
- Zero Waste Businesses Diversion Rate: 90%
- Commercial Properties: 2,603[8]

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[4] City of San Jose-Environmental Services.2012."New Recycling & Garbage Collection Services." Retrieved from: http://www.sjrecycles.org/business/commercial-redesign.asp (Accessed July 2012) ; State law AB341 requires businesses who generate more than 4 cubic yards of waste to recycle.

[5] City of San Jose-Environmental Services. 2012."New Recycling & Garbage Collection Services." Retrieved from: http://www.sjrecycles.org/business/commercial-redesign.asp (Accessed July 2012.

[6] City of Austin, TX.2011. "Summary of Universal Recycling Ordinance." Retrieved from: http://www.austintexas.gov/sites/default/files/files/Trash_and_Recycling/Summary_of_URO.pdf (Accessed July 2012).

[7] Gary Liss & Associates, and Richard Anthony Associates.2008. "Austin, TX Zero Waste Strategic Plan." Retrieved from: http://www.ilsr.org/wp-content/uploads/2012/02/Austin-TX-Zero-Waste-Plan.pdf (Accessed July 2012).

[8] Gary Liss & Associates, and Richard Anthony Associates.2008. "Austin, TX Zero Waste Strategic Plan." Retrieved from: http://www.ilsr.org/wp-content/uploads/2012/02/Austin-TX-Zero-Waste-Plan.pdf (Accessed July 2012).

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City of San Jose. "New Recycling & Garbage Collection Services." New Recycling & Garbage Collection Services. City of San Jose-Environmental Services, July 2012. Web. 2012. http://www.sjrecycles.org/business/commercial-redesign.asp.

EPA. "Cutting the Waste Stream in Half: Community Record-Setters Show How." EPA.gov. Environmental Protection Agency, Oct. 1999. Web. 2012. http://www.epa.gov/osw/conserve/downloads/f99017.pdf

Federal Reserve Bank of Atlanta. "The Long Recovery in the Southeast: Federal Reserve Bank of Atlanta 2010 Annual Report." Frbatlanta.org. Federal Reserve Bank of Atlanta, 2010. Web. 2012. http://www.frbatlanta.org/documents/pubs/annualreport/10ar.pdf.

Gary Liss & Associates, and Richard Anthony Associates. "Austin, TX Zero Waste Strategic Plan." ILSR.org. City of Austin, TX, Dec. 2008. Web. 2012. http://www.ilsr.org/wp-content/uploads/2012/02/Austin-TX-Zero-Waste-Plan.pdf.

ILSR. "ILSR's U.S. EPA-Sponsored Waste Reduction Project." ILSR.org. Environmental Protection Agency, 1999. Web. 2012. http://www.ilsr.org/13049/

SCI. "Office Waste Reduction Programs." Sustainable Cities Institute. Sustainable Cities Institute, 2009. Web. 2012. http://www.sustainablecitiesinstitute.org/view/page.basic/class/feature.class/Lesson_Office_Waste_Reduction_Program

BEST PRACTICES

GREEN INFRASTRUCTURE

OVERVIEW & CHARACTERISTICS

Green infrastructure presents an opportunity for communities to more naturally handle and manage stormwater, with a goal of healthier urban environments and reduced stress on man-made water management systems. Traditional urban settings are made of large areas of impermeable hardscape like roads, sidewalks, and roofs, which are unable to manage excessive water flow during storm events. In some cases, stormwater overflow can cause costly combined-sewer overflows (CSO). Through the integrated use of bioswales, porous pavements, green roofs, rainwater harvesting, land conservation, and a host of other methods, a city can capture the benefits of a green infrastructure system, which can include the following[1]:

> *The EPA estimates the need for over $105 billion for CSO controls and stormwater management over the next 20 years.*
> Source: Environmental Protection Agency

- Increased water quality through natural filtration
- Flood mitigation from reduced stormwater flow
- Higher air quality from increased vegetation
- Reduction in the urban heat island effect[2]
- Potential lower long-term maintenance costs for private developers and cities

SUCCESS STORIES

Philadelphia, Pennsylvania

The Philadelphia Water Department (PWD) has developed an extensive green infrastructure plan for its stormwater management. The plan covers renovation and construction of infrastructure such as streets, parks, schools, and homes.[3] PWD's green street plans include tree trenches, pervious pavement, and stormwater bump-outs. Philadelphia's complimentary Green Parks program upgrades parks with green

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[1] US Environmental Protection Agency. 2012. *"Why Green Infrastructure?."* Retrieved from: http://water.epa.gov/infrastructure/greeninfrastructure/gi_why.cfm (Accessed July 2012).

[2] EPA *EPA*. Environmental Protection Agency. 2012. "Heat Island Effect | U.S. EPA.". Retrieved from: http://www.epa.gov/hiri (Accessed July 2012).; Definition: The term "heat island" describes built up areas that are hotter than nearby rural areas. The annual mean air temperature of a city with 1 million people or more can be 1.8–5.4°F (1–3°C) warmer than its surroundings.

[3] Philadelphia Water Department. 2012. *"Green Stormwater Infrastructure Programs."* Retrieved from: http://www.phillywatersheds.org/what_were_doing/green_infrastructure/programs (Accessed July 2012).

infrastructure while addressing the concerns and wishes of the neighborhood. The PWD is designing or has completed the following initiatives[4]:

- Green Street Projects: 17
- Green Parks: 18
- Tree Trenches: 152
- Porous Paving Projects: 27

Portland, Oregon

Portland's Grey to Green infrastructure program was developed to better manage the city's stormwater while also improving air quality and increasing native vegetation and wildlife habitat. Grey to Green includes the use of land acquisition, re-vegetation efforts, eco-roof construction, and green street development in order to reach their specific targets.[5] The program includes goals of adding forty-three (43) new acres of eco-roof, constructing 920 new green street facilities, and planting of over 80,000 new trees.[6] As of a 2011 report, the Grey to Green program has met the following targets:

Portland estimates that Grey to Green projects could reduce air particulate levels by more than 17 tons annually, and save 927,000 kWh annually.

Source: Portland Bureau of Environmental Services

- Green Street Construction: 546 facilities
- Trees Planted: 26,400
- Eco-roof: 6.5 acres, with 90 more projects approved
- Land Conservation: 261 acres [7]

Washington, D.C.

Washington D.C.'s District Department of the Environment (DDOE) has instituted various programs and regulations on green infrastructure. The RiverSmart Homes program provides incentives to homeowners looking to implement green infrastructure projects on their property. Those that qualify can receive up to $1,200 for the installation of shade tree planting, rain barrels, pervious pavers, rain gardens, or bayscaping.[8] Additionally, the Environmental Protection Agency (EPA) approved new performance standards for stormwater runoff controls in Washington D.C. These standards for the District include[9]:

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[4] Philadelphia Water Department. 2012. "Green Stormwater Infrastructure Project Map." Retrieved from: http://www.phillywatersheds.org/BigGreenMap (Accessed July 2012).
[5] City of Portland Bureau of Environmental Services. 2012. "Grey to Green Elements." Retrieved from: http://www.portlandonline.com/bes/index.cfm?c=47203&a=193188 (Accessed July 2012).
[6] City of Portland Bureau of Environmental Services. 2012. "*What is Grey to Green*" Retrieved from: http://www.portlandonline.com/bes/index.cfm?c=47203&a=321331 (Accessed July 2012).
[7] City of Portland Bureau of Environmental Services. 2012. "*What is Grey to Green.*" Retrieved from: http://www.portlandonline.com/bes/index.cfm?c=47203&a=321331 (Accessed July 2012).
[8] District Department of the Environment. 2012. "*RiverSmart Homes-Overview.*" Retrieved from: http://green.dc.gov/service/riversmart-homes-overview (Accessed July 2012).
[9] US Environmental Protection Agency. 2011. "*EPA Approves New Performance Standards for D.C. Stormwater.*" Retrieved from:

- Green Roofs: 350,000 sq. ft.
- Water Retention: 1.2 inches from a 24-hour storm for development projects of 5,000 sq. ft. or greater
- Trees Planted: 4,150

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City of Portland Bureau of Environmental Services. (2010). Portland's Green Infrastructure: Quantifying the Health, Energy, and Community Livability Benefits. Available at: http://www.portlandonline.com/bes/index.cfm?c=52055&a=298042

US Environmental Protection Agency. (2012). *Green Infrastructure*. http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm

Philadelphia Water Department. (2012). Green Stormwater Infrastructure. http://www.phillywatersheds.org/what_were_doing/green_infrastructure

http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/ac714e4db1dd491c8525792000617a95!OpenDocument (Accessed July 2012).

BEST PRACTICES

PLUMBING FIXTURE RETROFITS

OVERVIEW & CHARACTERISTICS

Plumbing retrofits improve efficiency standards for water fixtures and outdoor irrigation in residential and commercial settings. This includes toilets and urinals, faucets, showerheads, and pre-rinse spray valves. Updating plumbing fixtures can significantly reduce the amount of water used in residential and commercial buildings. If implemented nationally, plumbing retrofits could provide all eight Southeastern states with their entire public water supply (approximately 20 percent of the total U.S. public water supply).[1] Retrofits include:

- Replacing conventional toilets with low-flow or high-efficiency toilets
- Installing efficient faucets and/or faucet aerators
- Replacing showerheads that have a flow rate greater than 2.5 gallons per minute[2]

If all U.S. households installed water efficient fixtures and appliances, the country would save more than 8.2 billion gallons of water per day

Source: Alliance for Water Efficiency, 2008

SUCCESS STORIES

Asheville Civic Center

A 2009 study by Veritec Consulting, found that the installation of motion-sensor faucets, toilets, and urinals significantly increased water consumption.[3] This is largely attributed to unnecessary flushes caused by motion detection in restrooms. Additionally, faucets often flow for longer periods and at higher pressure when automated in comparison to manual operation.[4] The Asheville Civic Center was equipped with urinals that automatically flush when doors opened. A water audit showed that this system was functioning inefficiently. A

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[1] Hoffner, Jenny. 2008. "*Hidden Reservoir: Why Water Efficiency Is the Best Solution for the Southeast*. American Rivers." Retrieved from: http://www.allianceforwaterefficiency.org/uploadedFiles/News/NewsArticles/NewsArticleResources/American_Rivers_Hidden_Reservoir_Oct_2008.pdf. (Accessed July 2012).

[2] Alliance for Water Efficiency. 2010. "Water Saving Tips: For Residential Water Use, Indoors and Out." Retrieved from: http://allianceforwaterefficiency.org/residential-tips.aspx (Accessed July 2012).

[3] Gauley, Bill, and John Koeller. 2010. "Sensor-Operated Plumbing Fixtures: Do They Save Water?" Retrieved from: http://www.map-testing.com/assets/files/Sensor-Operated%20Fixtures%20Final%20Report%20March%202010.pdf (Accessed July 2012).

[4] Gauley, Bill, and John Koeller. 2010. "Sensor-Operated Plumbing Fixtures: Do They Save Water?" Retrieved from: http://www.map-testing.com/assets/files/Sensor-Operated%20Fixtures%20Final%20Report%20March%202010.pdf (Accessed July 2012).

two minute delay was set to prevent urinals from flushing after each use during high volume events.

- Fixture Efficiency: Water usage reduced by nearly 90% for urinals
- Water Savings: 600,000 gallons annually from timer installation [5]

Houston, Texas

The Houston Department of Public Works and Engineering has implemented water conservation programs due to their large commercial and residential service base and groundwater resources which have been degraded from land subsidence, saltwater intrusion, and flooding. Conservation programs will lower costs and necessity for infrastructure investment. The Texas Natural Resource Conservation Commission required the City to implement a conservation plan to meet state requirements. The conservation program has these elements:

Summary of Results for Houston, TX	
Pilot Retrofit Program at 60-Unit Housing Development	
Fixture costs paid by water utility	$5,000
Fixture costs paid by housing authority	$6,000
Labor costs paid by housing authority	$11,000
Total cost of program	$22,000
Savings in water and wastewater bills from low-income pilot program	$6,834 per month
Activities and Water Savings	
Conservation kits distributed	10,000
Conservation kits installed	8,000
Average water savings from conservation kits	18% per household
Water savings from low-income pilot program (above)	72% (1 million gallons per month)
Predicted cut in water demand from conservation plan	7.3% (year 2006)
Total predicted cut in water demand	17.2% (year 2006)
Cost Savings	
Predicted benefit cost ratio of conservation plan	3.7 to 1
Predicted savings from conservation plan	$262 million

Water Conservation Results – Houston, TX

Source: Environmental Protection Agency, 2002

- Education program
- In-house program
- Contract customers program
- Conservation planning program

The education program entails outreach and efficiency retrofits for older buildings. The in-house program involves irrigation audits, leak detection and repair of pools and fountains, and analysis of water use. The contract customers program requires billing based on actual water use and penalties for unnecessary water use during peak-demand. The 1994 conservation planning program study was conceived with a Texas Water Development Board grant. The conservation plan was adopted in 1998 and enhanced programs to include residential audits, appliance labeling, commercial indoor audits, cooling tower audits, public indoor and outdoor audits, pool and fountain audits and standards, increased public education, and a "water-wise and energy-efficiency program."[6]

Tampa, Florida

Beginning in 1989, the Tampa Water Department implemented procedures to reduce water usage via water-conserving codes, an increasing block rate structure, public education, in-

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[5]N.C. Department of Environment and Natural Resources. 2009. "Water Efficiency Manual for Commercial, Industrial, and Institutional Facilities." Retrieved from: http://infohouse.p2ric.org/ref/01/00692.pdf (Accessed July 2012).
[6] EPA. Environmental Protection Agency. 2002. "Cases in Water Conservation: How Efficiency Programs Help Water Utilities Save Water and Avoid Costs." Retrieved from:
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school education, and other conservation projects. These water conservation programs are in response to Tampa's rapid economic and population growth over the past decades as well as periodic drought conditions. Tampa receives the majority of their water from the Hillsborough River, which is seriously impacted by drought conditions. The City advocates for water efficiency through:

Summary of Results for Tampa, FL

Number of Sensible Sprinkling landscape evaluations performed	915
Water savings from Sensible Sprinkling landscape evaluation program	25%
Number of water-saving kits distributed	100,000
Water savings from distribution of water-saving kits	7 to 10 gallons per day per person
Number of inefficient toilets replaced	27,239
Water savings from toilet rebate program	38 gallons per day per household

Water Conservation Results – Tampa, FL
Source: Environmental Protection Agency, 2002

- Water use restrictions
- Fines for water violations
- Plumbing and landscaping codes

Outdoor irrigation is limited to one (1) day per week and new systems are required to install rain sensors. The landscape code restricts the amount of turf grass to 50 percent in new developments. The city amended the plumbing code to require water-efficient plumbing fixtures in all new construction and renovation. The city also began distributing water conservation kits to homeowners in 1989. In 1994, the water department started a toilet rebate program to retrofit existing toilets with high-efficiency toilets (HET), single family, multi-family, and commercial customers are eligible to participate in the program.[7]

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BEST PRACTICES

COOPERATIVE HAULING AGREEMENT

OVERVIEW & CHARACTERISTICS

A cooperative hauling agreement is a way for multiple organizations or buildings to collectively manage their waste. This approach leverages the buying power of multiple buildings by creating "right sized" waste management contracts that reduce the cost to building management companies and building owners. Collective buying in conjunction with a recycling program can have additional benefits which address longstanding challenges. For example, one such challenge with respect to tracking the success of a recycling program is obtaining consistent data on the diversion rate of waste from landfills. Different vendors often provide different levels of service or may collect different types of materials. By working with a single point of contact such as a single hauler or waste management broker, a group of buildings can develop a standardized plan for waste hauling, capturing metrics, and potential cost savings.

SUCCESS STORIES

Livable Buckhead Incorporated (LBI) Commercial Building Waste Management Program

LBI's waste management program began as an effort to create a community wide recycling initiative, focusing on commercial buildings. LBI capitalized on its relationship with property management teams in Buckhead to bring them together to leverage their collective buying power.

The key elements of the success of the program are:

- "Right sized" operations for the building
- Leveraging the buying power of multiple management teams
- Creating economies of scale for the trash hauler
- Concentrating on removing recyclables from landfills.

By focusing on waste management, they were able to bring together eight office towers to create a waste management plan that was consistent across each of the buildings. Not only did this allow LBI to obtain consistent metrics for rates of waste diversion from landfills and collection of recyclable materials, the program saved the participating office buildings 20 percent in trash hauling costs. Livable Buckhead stressed the importance of focusing on overall waste management and not just recycling. In addition, LBI uses an independent broker to obtain the greatest cost savings for property managers and future management of the agreement.

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BEST PRACTICES

FLEET EFFICIENCY POLICY

OVERVIEW & CHARACTERISTICS

A Fleet Efficiency Policy provides strategies to mitigate emissions from existing transportation fleets. Such a policy can offer substantial savings related to fuel costs as well. Strategies can include anti-idling policies, changes to driver behavior or routes, as well as changes in fleet technology. Alternative fuel fleets help reduce pollution, save money and contribute to the resilience of an organization's infrastructure. A Fleet Efficiency Policy will:

- Reduce carbon emissions and pollutants contributing to smog
- Engage operations staff in sustainability work
- Realize cost savings from avoided fuel costs

A 2.5 percent increase in vehicle miles per gallon in the DeKalb County fleet would save over $52,000 annually based on gas prices in 2010.

Source: DeKalb County Sustainability Plan

SUCCESS STORIES

DeKalb County, Georgia

The sustainability plan for DeKalb County, Georgia provides an excellent example of the integration of an alternative fuel vehicle purchasing policy. Established in 2011, the policy built on existing goals of the county's sustainability plan and focused attention on challenges to those goals. The plan makes simple recommendations to use alternative fuel vehicles where appropriate, cut diesel and gasoline consumption by five percent over a two year period and more thoroughly enforce the anti-idling policy already in place.

Converting from diesel/gasoline fuel vehicles to propane or natural gas reduces carbon monoxide emissions and particulate matter, two pollutants that have negative effects on air quality and public health. By converting only high-usage vehicles for this conversion, the up-front costs of the work are offset by fuel savings as quickly as possible. Along with enforcing the anti-idling policy, achieving the target reduction in fuel consumption will lead to:

- Savings of $102,229 at 2010 gas prices
- Savings of $155,780 at 2011 gas prices

The report also shows that enforcing the anti-idling policy would require greater interaction between the public safety department and fleet management, increasing collaboration and involving multiple county teams in the sustainability plan.

Austin, Texas

The city of Austin, Texas is working toward an ambitious goal of having a carbon neutral fleet. The city has studied the carbon footprint of the fleet, tracked progress and developed policies for purchasing alternatively fueled vehicles, converting existing vehicles and improving their alternative fuel infrastructure to achieve the goal. The city has added well over 100 charging stations for electric vehicles powered entirely by renewable energy[1], and became the first city in the nation to boast such a clean power source for their vehicle fleet. Their results have been impressive:

- From 2007 to 2011, city fleet emissions were reduced by 13 percent

A 2012 plan included strategies for:

- New vehicle and equipment purchasing
- Fueling infrastructure and fuel purchasing guidelines
- Employee education and training

Austin's vehicle fleet saved 7,000 metric tons of CO2-Equivalent emissions from 2007 to 2011, which is the equivalent of 963 homes' electricity usage for one year.

Source: EPA Greenhouse Gas Equivalencies Calculator

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[1] See http://austintexas.gov/blog/sustainability-action-agenda-austin-energy-offers-ev-charging-stations-encourage-alternative-transportation

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BEST PRACTICES

CONSTRUCTION AND DEMOLITION WASTE DIVERSION

OVERVIEW & CHARACTERISTICS

Construction and Demolition (C&D) Waste Diversion ensures that the large amount of material waste produced on a construction site is not landfilled. Non-hazardous C&D debris includes brick, aluminum, wood, drywall, and a host of other materials. As it stands, C&D waste constitutes a large amount of solid waste disposal in the country. The US Environmental Protection Agency (EPA) performed an extensive study to estimate the C&D waste from residential and nonresidential projects in 2003 with the following results:

From Oct. 2008-Sept. 2009, C&D debris accounted for just over 21% of Georgia's solid waste.

Source: GA Department of Natural Resources

- Residential: 67,000,000 tons
- Nonresidential: 103,000,000 tons
- Total: 170,000,000 tons [1]

In an attempt to reduce this flow of C&D debris to landfills, communities across the country have taken measurements to increase C&D waste diversion rates.

SUCCESS STORIES

Alameda County, California

Alameda County passed an ordinance requiring C&D projects in unincorporated areas to provide a Debris Management Plan.[2] Understanding the difficulties of source sorting C&D debris, the County encourages the use of waste facilities that are capable of sorting the debris after delivery. The Alameda County facilities which accept the mixed C&D waste have shown high diversion rates.

- Debris Management Plan Ordinance: 2009
- Diversion Rate Standards: 75% of inert solids & 50% of other C&D Waste

20% | 80%
Diversion Rate
Disposal Rate
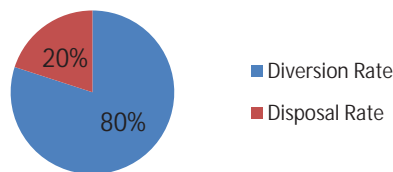
Average Diversion and Disposal Rates of Alameda County Mixed C&D Facilities

Figures sourced from StopWaste.org

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[2] Alameda County Public Works Agency. 2012. "Construction & Demolition Debris Management Program." Retrieved from: http://www.acgov.org/pwa/about/construction/building/debris.htm (Accessed July 2012).

Charleston County, South Carolina

Charleston County has made a commitment to reduce its waste stream and incineration rates. Part of this plan includes diverting C&D waste from landfills and finding alternative applications for the C&D debris. The County began this process by discontinuing its C&D services for private companies at the Bees Ferry Landfill.[3] Private landfills are charging higher tipping fees for C&D debris than Charleston County, who is in effect incentivizing private companies to recycle, donate, or repurpose their C&D debris. Charleston County has received recommendations from the public to require C&D debris plans and minimum diversion rates for permitted projects.

- County Waste Plan Established: 2008
- Landfill Composition: 39% C&D [4]
- Technical Assistance: Charleston Green Committee

Georgia Institute of Technology

Georgia Tech, located in Midtown Atlanta, has established a variety of institutional practices and policies for waste management, including C&D debris. Typical C&D projects at Georgia Tech recycle over 95 percent of their waste, which adds to the community's strong waste reduction efforts. When combined with other solid waste reduction projects on campus, the C&D debris diversion efforts pushed Georgia Tech's total solid waste diversion rates just past 51 percent.[5]

- Diversion Rate 2009-2010: 98% of C&D [6]
- C&D Waste Diverted 2012: 3,238 tons
- C&D Landfilled 2012: 100 tons [7]

RESOURCES

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[6] Sustainable Endowments Institute. 2010. "The College Sustainability Report Card: Georgia Institute of Technology." Retrieved from: http://www.greenreportcard.org/report-card-2011/schools/georgia-institute-of-technology/surveys/campus-survey#building (Accessed July 2012).
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BEST PRACTICES

REVOLVING FUND

OVERVIEW & CHARACTERISTICS

A Revolving Fund provides financing to parties within an organization to implement energy efficiency, renewable energy and other sustainability projects that generate cost-savings (Sustainable Endowments Institute, 2012). The payback for the fund is based upon the lender's return on investment (ROI). In other words, a portion of the savings realized goes towards repaying the initial funding for the improvements. The money in the fund is then reinvested to finance other projects. A Revolving Fund removes lack of funding as a barrier for implementing sustainability projects. Revolving Fund benefits include (Sustainable Endowments Institute, 2013):

- Boosting ROI – Reported median annual ROI of 28 percent, which significantly outperforms average endowment investment returns, while maintaining strong returns over longer periods of time.
- Achieving Short Payback Period – Reported median payback period of 3.5 years, with an average of a quarter of all money invested initially able to be reinvested within one year.
- Initiating New Mindset – Overcoming limitations of budgeting energy efficiency projects as expenses, rather than as a low-risk/high yield financing resources.
- Facilitating Flexibility – Use of a variety of capital sources that can be scaled up over time.
- Hedging Against Rising Energy Prices – An effective strategy for hedging against rising energy prices without the negative downside of traditional energy price hedges, which incur losses if energy prices stay flat or decline.

Figure 1: How Green Revolving Funds Work
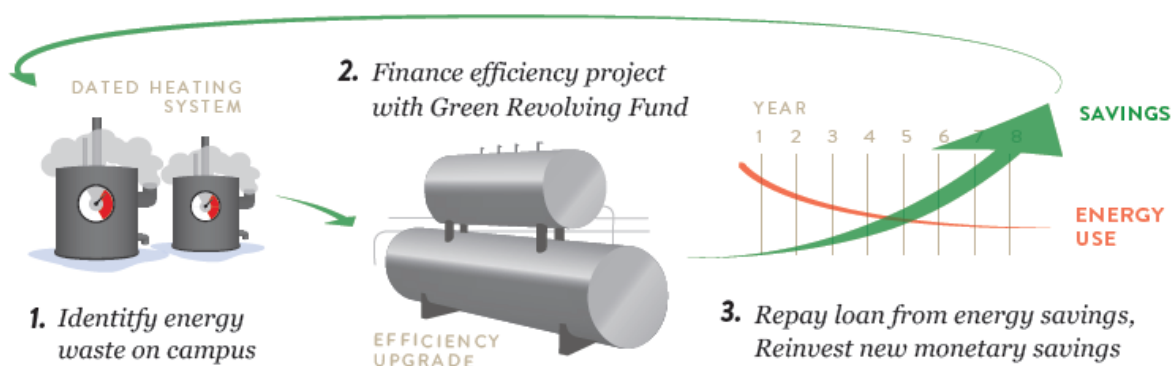
Source: Sustainable Endowments Institute, 2012

SUCCESS STORIES

Agnes Scott College – Decatur, Georgia

Agnes Scott College's fund was established in 2011 and implemented in 2012. The college is part of the Green Billion Program. Initial funding came from alumni fundraising, and within a few months, Agnes Scott College raised $400,000. The fund has helped meet demand for retrofitting the 29 institutional buildings. Current and past retrofits include replacement of T12 bulbs and installation of LED lights. Future projects include lighting occupancy sensors, low flow water features, solar/geothermal energy use, upgraded pool heating and dehumidifying systems, replacing parking deck lights and adding a summer boiler in the Science Center.

- Fund size: $1,000,000
- Number of projects: 6
- Return on investment: 3.7 years

Georgia Institute of Technology – Atlanta, Georgia

Georgia Tech's fund was established in 2009. The institute is part of the Green Billion Program. Georgia Tech is a leader in campus sustainability; in 2003, they were recognized for having the 13th LEED Certified building in the US. By 2003, they also retrofitted 64 campus buildings, leading to 11 percent greater energy efficiency. To maintain their leadership in sustainability, their fund was established to better connect and maintain capital and operations. Energy efficiency projects are focused on boilers, lighting, automation, steam line repair and HVAC.

- Fund size: $6,000,000
- Number of projects: Unknown[1]
- Return on investment: 1-5 year payback

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Conservation, 1 Jan. 2015. Web. 30 Mar. 2015.
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[1] Despite extensive research and communication with Georgia Tech, Southface was unable to determine additional details about the total number of projects implemented.

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BEST PRACTICES

GREEN BUSINESS RECOGNITION

OVERVIEW & CHARACTERISTICS

A Green Business Recognition Program helps businesses in varying sectors implement sustainability measures to their daily operations. Businesses commit to program standards and select measures in areas related to energy, water, waste, pollution, and education to make improvements applicable to their respective business sector and internal capacities. Businesses must commit to program standards and applicable environmental regulations to be eligible for recognition. This type of program provides a valuable opportunity to:

- implement sustainable business practices,
- receive technical assistance,
- achieve cost savings from resource conservation, efficiency upgrades, and utilities, and
- receive recognition as a green business in the region.

According to a recent survey of San Francisco Green Businesses, 42% reported an increase in business since receiving their recognition.

Source: San Francisco Green Business, 2009

SUCCESS STORIES

San Francisco Green Business

San Francisco's Green Business Program was established in 2004 and is a member of the Bay Area Green Business Program, a founding member of the California Green Business Network.[1] The California Green Business Network which began in 2005 is comprised of nineteen (19) programs. The success of the San Francisco Program can be attributed to the partnerships that exist among the state, county, city, utilities, and other organizations. Government agencies add credibility to the program and provide access to funding which allows businesses to participate without a fee. The program received a grant from the California Department of Toxic Substances Control to develop a tool which
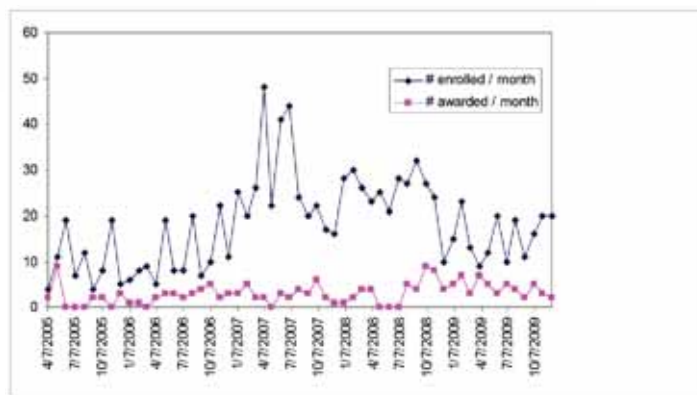
Number of Businesses Enrolled & Awarded Per Month 2005-2009

Source: California's Green Business Programs

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[1] Evans, Pamela, Jo Fleming, and Sushma Bhatia. 2010. "*California's Green Business Programs.*" Retrieved from: http://www.calcupa.org/conference/2010/grand-g/California-Green-Business-Programs.ppt (Accessed July 2012).

will be maintained by the San Francisco Department of the Environment. This tool will manage environmental data, track business progress, and measure results to demonstrate the positive effects of the California Green Business Network programs. It will also calculate environmental and fiscal benefits to participants. The metrics tracking tool is available to businesses in the California Green Business Network. Results are communicated to the public through program websites, e-newsletters, and local media.

- 2010 Certified Businesses*: 170 in San Francisco, over 2,000 in California[2]
- Partners: SF Environment, SF Dept. of Public Health, SF Public Utilities Commission, City and County of San Francisco
- Funding: $74,500 for metrics tracking[3]
- Savings: $707,500[4]

Charleston Green Business Challenge

Charleston's Green Business Challenge began in 2011 and was established on an annual basis by the City of Charleston in partnership with local and national organizations.[5] The Green Business Challenge developed a scorecard for participants to baseline their operations with regard to eight (8) environmental and social categories and set a target score using the scorecard template.[6] Participants can achieve recognition by accumulating

"Charleston's Green Business Challenge is leading the way by coordinating our community's grassroots efforts to make both economically sound and quality of life improvements for our businesses and citizens. It is a great thrill to be at the forefront of sustainable prosperity locally."
- Mayor Joseph P. Riley, Jr, City of Charleston, SC
Source: City of Charleston, 2012

points or reducing their utility bills by a certain percent. The scorecard is modeled after the City of Chicago and ICLEI's Green Office Challenge, which is a competition to reduce

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[2] Evans, Pamela, Jo Fleming, and Sushma Bhatia. 2010. "California's Green Business Programs." Retrieved from: http://www.calcupa.org/conference/2010/grand-g/California-Green-Business-Programs.ppt (Accessed July 2012).
[3] City of San Francisco City Operations and Neighborhood Services Committee.2010. "City of San Francisco-City Operations and Neighborhood Services Committee-Grant Information and Budget." Retrieved from: http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/resolutions10/r0224-10.pdf (Accessed July 2012).
[4] City of Charleston. 2012."City of Charleston, SC Planning & Neighborhoods." Retrieved from: http://www.charleston-sc.gov/dept/content.aspx?nid=2062 (Accessed July 2012).
[2] Energy, Water, Waste conservation savings from Santa Cruz County Program (199 participants

energy consumption and greenhouse gas emissions from commercial buildings.[7] The Green Business Challenge has a broad scope which enables varying business sectors to use the

same scorecard. The scorecard helps the city with metrics tracking and carbon reduction. The nature of the challenge is to set the bar high and integrate sustainable practices with business operations.

- Challenge Participants: 76 in 2011-2012[8]
- Partners: Charleston Metro Chamber of Commerce, Charleston County, Charleston Green Fair and Best in Green & Local Expo, Lowcountry Local First, The Sustainability Institute, and The Medical University of South Carolina[9]
- Savings: $44,000 by 10 participants[10]

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[6]ICLEI. 2012. "Chicago Green Office Challenge Winners Recognized by Mayor and ICLEI." Retrieved from: http://www.icleiusa.org/news/press-room/press-releases/chicago-green-office-challenge-winners-recognized-by-mayor-and-iclei (Accessed July 2012).

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[10]City of Charleston.2012."Green Business Challenge Information Brochure." Retrieved From: http://www.charleston-sc.gov/shared/docs/0/gbc%20brochure%20for%202011-2012.11-22.pdf (Accessed July 2012).

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San Francisco Green Business. "SF Green Business - Home." SF Green Business - Home.
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    http://www.sfgreenbusiness.org/.

BEST PRACTICES

WORKPLACE COMMUNICATION

OVERVIEW & CHARACTERISTICS

Signs, banners and prompts are a great way to remind staff of their role in reducing resource use. Occupant behavior has a substantial impact on building performance and resource use. Educating staff and visitors on the importance of conserving resources can be as simple as a reminder to turn off lights when leaving a room, to avoid running faucets unnecessarily or to close operable windows when turning the air conditioning on. Adding sustainability signage to a workplace will:

- Build a culture of engaged sustainability leadership
- Increase the efficacy of all sustainability programming
- Reduce building operating costs
- Reduce resource consumption

SUCCESS STORIES

Catlin Group Limited

As a major insurer and reinsurer of specialist properties and casualties with more than 50 offices in 22 countries, the risks of climate change have become a core component of Catlin Group's future as a business and as a global entity.

Central to their sustainability policy is the concept of employee engagement. Catlin recognizes that their initiatives will be most successful with involvement from employees, especially in smaller offices where individuals have a larger

Source: Catlin Group Limited

A-40
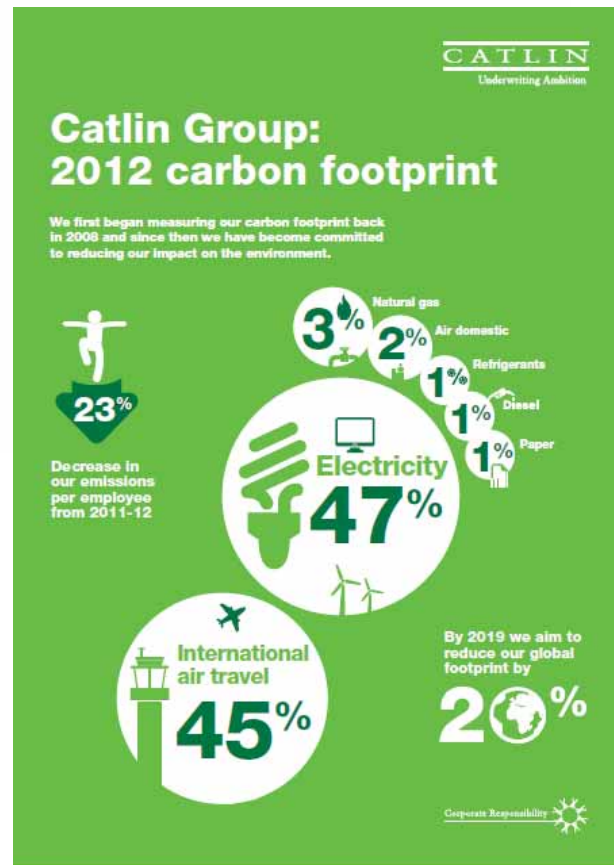
proportional impact[1]. Catlin has excellent internal communication collateral that:

- Concisely illustrates sustainability initiatives
- Engages and educates the audience
- Connects the goals of the company with the activity of employees
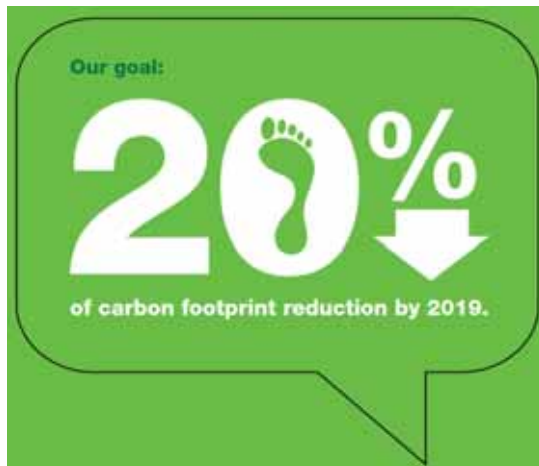
SAP AG

Based in Walldorf, Germany, SAP AG is a software and software service provider that operates in 188 countries worldwide. The sustainability goals at SAP are ambitious, and require collaboration between the facilities, human resources, IT departments and the sustainability team. SAP excels at understanding and studying their employees' involvement in sustainability initiatives.

According to a survey, 91 percent of SAP employees said it is important that the company pursue sustainability, but only 68 percent actively contribute. SAP realizes the importance of maximizing employee engagement and reminds its employees of the company's commitment to sustainability through peer leadership. SAP employees are encouraged to offer sustainability solutions, products and services as a means of engaging with the goals themselves. SAP also selects sustainability champions who dedicate 10 percent of their work time to promoting sustainability within the company[2].

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[1] See Catlin Group Limited's 2014 Annual Report, page 72 to review Catlin Group's culture and their commitment to sustainability. Link to their Annual Report:
http://www.catlin.com/~/media/downloads/investors/reports/2014/2014_catlin_group_limited_annual_report_and_accounts.ashx)

[2] See Institute for Building Efficiency's Driving Behavior Change Report, page 57 to read the entire SAP case study. Link to the Report:
(http://www.institutebe.com/InstituteBE/media/Library/Resources/Building%20Performance%20Management/Building-Performance-Management_Driving-Behavior-Change.pdf)

This model can help organizations:

- Increase employee connectivity and commitment to sustainability
- Share responsibility for investment and success in sustainability goals
- Generate innovative sustainability solutions

New York State University at Cortland

University campuses are prime examples of using community engagement for their sustainability initiatives. At New York State University at Cortland, staff implemented a pilot program to reduce wasted energy from lights being left on in unoccupied rooms. The program sent a letter to faculty asking that they turn off lights prior to leaving a classroom if the classroom had no incoming group, and a group of faculty also created a visual prompt to be placed in classrooms. Even this small program produced clear, positive results:

- Lights were turned off 13 percent more when faculty were sent a letter
- Lights were turned off six percent more in rooms with a visual prompt

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APPENDIX B: VALUE PROPOSITION

Introduction & Process Overview

The Sustainability Action Plan (SAP) for Atlanta Beltline, Inc. (ABI) is one of a series of action plans developed to support ABI's 2030 Strategic Implementation Plan (SIP). The SAP preparation process was conducted with an emphasis on the "why" of sustainability—**why** is this relevant to ABI's work, **why** sustainability will make ABI a better organization, and most importantly—**why** and how sustainability will advance ABI's business objectives.

Recognizing that the SAP would be most relevant and successful if developed with active staff engagement, the process included several opportunities for staff input:

- A series of targeted, one-on-one listening sessions with a cross-section of employees (completed October 2014).
- An all-hands meeting at Southface Eco-Office about why sustainability is important to ABI's business ("Why" Meeting, held October 28, 2014).
- Volunteer SAP Network teams to help develop strategies for each of ABI's sustainability business imperatives (November-January 2014).
- Presentation of the "draft final" SAP to all staff, with facilitated workshops as a final opportunity for comment and revisions (March 2015).

Listening Session Input

A total of ten individual listening sessions were conducted to establish a baseline for awareness and knowledge of "sustainability" at ABI. Though the conversations were specific to each individual, some themes emerged:

- Everyone thought that sustainability was an important goal for ABI to pursue, because it provides an opportunity to use resources efficiently (short-term) and maintain standard of living for the future (long-term).
- When asked to provide examples of sustainable practices, responses focused on environmental actions and the importance of social connections with community stakeholders. Economic sustainability was not well understood or referenced.
- Staff has a clearer understanding of sustainability in terms of home life (recycling, energy and water savings, etc.). Those who think about sustainability at ABI are generally externally (project) focused.
- Many had difficulty understanding the internal sustainability imperative and benefit.
- Staff would like to know more about the cost-benefit analysis and the business case for sustainability.

Figure 1: Word Cloud of Listening Session Input

Taken together, these listening sessions portray ABI staff as mission-focused and open to the idea of sustainability, but fuzzy on the details, rationale and strategies for applying these practices in a business setting. Education and technical assistance are particularly needed for internal (workplace/people and internal processes) and financial aspects.

This information, along with feedback from staff about effective meeting design and facilitation, helped shape the all-hands "Why" meeting held at one of the region's leading sustainability sites, the Southface Eco-Office.

The remainder of this appendix is a summary of the value proposition for sustainability at ABI. This document draws from and expands on the "Why", capturing key conversation points and recording staff input gathered in each of the four break-out groups.

Context: Peer Organizations

Two peer organizations provide useful context for this action plan. Both are major public organizations who build infrastructure, facilitate both public and private development, and have a significant impact on the built environment in their jurisdictions—and thus are relevant comparisons for ABI.

Portland Bureau of Planning & Sustainability (Oregon)

The Bureau of Planning & Sustainability (BPS) in Portland, Oregon seeks to advance a "sustainable" city, which they define as "prosperous, healthy, resilient and equitable." BPS partners with others to: create and champion big-picture plans, set development codes & policies (e.g., EcoDistricts), facilitate voluntary and market-based action and research, demonstrate and evaluate innovative approaches. These goals and strategies are directly relevant to ABI's work in the Atlanta BeltLine planning areas.

The BPS Strategic Plan (2014-2016) lists all of the following as key initiatives:

- Develop and help implement City plans
- Focus on low-income neighborhoods
- Promote and inspire sustainable business practices
- **Make City operations a model of sustainable practices**
- **Advance equity and workplace excellence**

While all of these initiatives are relevant to ABI, the last two are particularly relevant for this SAP.

Arlington County (Virginia)

Arlington County, VA is a transit-oriented development (TOD) success story. According to transportation scholar Robert Cervero (2006): "Arlington County managed to transform the Metrorail Orange line into a showcase of transit-supportive development..." redeveloping "once dormant neighborhoods into vibrant clusters of office, retail, and residential development."

Arlington County's current sustainability focus is on energy and emissions. This topic serves as a lens to focus the broader sustainability conversation in their jurisdiction. In their words, through "rethinking energy, we are committed to energy practices that will make Arlington County a more prosperous, healthful, safe, and secure place to live, work, and play."

Arlington County's Community Energy Plan (2013) organizes their efforts in several impact areas. The first three listed below are typical jurisdiction and sector consumers of energy. The last two are inwardly focused, addressing Arlington County's own operations and people.

- Buildings
- District & renewable energy
- Transportation
- **County government activities**
- **Education and human behavior**

Peer Organization Summary

Implementing sustainable infrastructure also requires an organization to implement sustainable practices in their own business (internal operations), workplace, and partnerships. Our peer organizations, BPS and Arlington County, are both pairing an inward focus with external action, establishing credibility by demonstrating their commitment to sustainable practices. Their leadership in this area reflects ABI's values of integrity (transparency, accountability), innovation, and inspiration.

Value Creation

Few, if any, organizations adopt sustainability goals and practices simply out of altruism. Instead, the strategic benefit must be clear—especially the economic rationale. The organization must also "buy-in" to the idea that integrating sustainable practices is related to their own integrity as an organization, demonstrating accountability and transparency ("walking the walk").

This is really a discussion about *value creation*. ABI's success is assessed by its partners, stakeholders and the community (public), based on its ability to create three types of value through the Atlanta BeltLine:

- *Economic/business value*: project output for the money spent. This requires effective financial management of public (TAD and other) and private (donations, foundations) resources, both within ABI and externally via the Atlanta BeltLine program of projects.
- *Social/community value*: ability to transform the culture of the City through neighborhood and community identity. Related ideas: new social infrastructure; activating neighborhoods; creating new sense of place.
- *Environmental value*: positive environmental outcomes, including resource and location efficiency, reduced GHGs, improved air quality, public health, brownfield remediation, restoring natural ecology, biophilia, etc.

> *A value proposition is a promise of value to be delivered and acknowledged...*
>
> *AND a belief from the public that value will be experienced.*

These three types of value (environmental, social and economic) are the three often-cited pillars of sustainability. Consistently creating these three types of value will support and protect ABI's *license to operate*, a benefit discussed in greater detail below. The remainder of this chapter focuses on the other benefits that could return to ABI from sustainable practices—in other words, the value proposition for implementing sustainability at ABI.

Value Proposition: Business Imperatives for Implementing Sustainability

The question behind a value proposition is: how could sustainable practices directly improve ABI's organization and projects? Or, what business incentives would ABI experience as a result of implementing a sustainability program?

The answer in this case comes in the form of five "business imperatives." Each of these five imperatives is outlined below, along with a "thesis" statement for each, which summarizes the expected business value for ABI.

Imperative 1: Improve Efficiency and Reduce costs

Thesis: Sustainable practices yield savings in ABI's operations and throughout the project lifecycle.

The concept of improving efficiency and reducing costs through sustainable practices has three subcomponents of particular relevance to ABI. Each of these is outlined below, along with specific questions for ABI's use when evaluating how to achieve this particular business imperative.

Save natural and purchased resources in the office and on project sites.

Our "Why" meeting break-out groups identified several opportunities to save energy, water and materials in the ABI office, such as new IT policies to save computing energy and paper. Similar resource-saving concepts can be applied on project sites, such as the use of rainwater harvesting and minimal to no potable water in project landscaping, which could save water costs over the project lifecycle.

When looking for opportunities in this area, ABI should ask:

- Where are the biggest potential cost savings in the office, during project construction, and during long-term project O&M?
- How could resource conservation be used as a tool for more efficient project management, in terms of utilizing sustainability indicators and metrics for project tracking?

Partner with other sustainability-minded organizations.

The Atlanta BeltLine is highly visible both nationally and internationally as a "sustainable" redevelopment project. This visibility could provide a strategic opportunity to form organizational partnerships with groups who share a similar mission and values, such as Southface, the Urban Land Institute and the U.S. Green Building Council. These partnerships could lead to offers of free or discounted professional services, donated project materials and other cost-saving benefits.

When looking for opportunities in this area, ABI should ask:

- How does this other organization approach sustainability?
- Where is there alignment with our goals?
- How could this relationship reduce our project costs and/or save time for our staff or contractors?

Achieve management efficiencies while pursuing sustainability goals.

Implementing sustainable practices (e.g., a paperless office) requires holistic thinking about office processes, as well as early and consistent direction, additional communication and streamlined project management. This process might identify and eliminate other (indirect) inefficiencies, resulting in time savings for employees and contractors.

When looking for opportunities in this area, ABI should ask:

- Where are we inadvertently duplicating effort in the office and on project sites?
- How can we break down isolated work processes?
- How might an integrated design process save money and time during project development?

Imperative 2: Increase Revenues

Thesis: Sustainable practices lead to higher revenues

This concept can be illustrated as a feedback system, as shown in the figure. Sustainable project elements, such as green infrastructure and stormwater management features that improve water quality while providing an amenity, lead to higher quality projects. Higher quality projects raise the value of adjacent properties, yielding additional revenue for ABI via the Tax Allocation District (TAD).
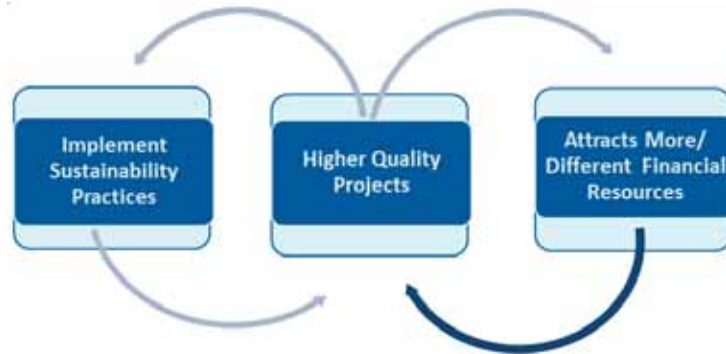
"Sustainable" project implementation can also attract new financial resources—donors, foundations and other private support, as well as new sources of public funding (local, state, federal). ABI can attract new funding sources based on organizational alignment on sustainability principles. This has already happened at the Historic 4th Ward Park, where Department of Watershed Management funding was allocated to fund a green infrastructure installation and stormwater reservoir. This money would not have been available for general park construction, but it was made available to help manage water quality and quantity (a "sustainable" goal), in addition to creating more community green space.

As more and/or different financial resources are availed to ABI, the organization can distribute resources to additional and higher quality projects. A positive feedback loop would reinforce the original decision to implement the sustainable project feature, encouraging future risk-taking in this arena.

When looking for opportunities in this area, ABI should ask:

- Which sustainability practices are most likely to raise adjacent property values?
- What organizations might be interested in funding Atlanta BeltLine projects based on sustainability features?
- What features in particular have organizations and/or foundations supported in the past?

Imperative 3: Engage Employees

Thesis: Sustainable workplaces attract and retain the best employees.

The business imperative related to employees is presented below in three parts.

Recruitment

The ability to attract talented and dedicated employees is increasingly a fundamental objective for businesses and organizations of all types. According to one researcher, "even relatively small amounts of information regarding corporate social responsibility and the business' environmental focus can positively affect reputation and recruitment efforts"[1].

ABI has a strong foundation of environmental and social responsibility through its mission of implementing the Atlanta BeltLine. This SAP is designed to strengthen and clarify these commitments and implement more sustainable practices within the organization itself. This initiative and the resulting plan will serve as a model framework for internal and external communications materials, and should be used explicitly in recruiting.

Productivity

After a business attracts the best employees, it should consider creating an office environment that maximizes human productivity. Workplace environment research demonstrates the positive impact of office design and condition on employee health and productivity. The figure on the right summarizes some of the key findings.

Cause	Potential Effect
Poor indoor air	Allergy & asthma symptoms; Lost work time
Poor ventilation	Reduced reaction time; Fatigue, headaches, higher risk of Sick Building Syndrome
Irregular indoor temperature	Increased performance up to 72 degrees, decreased above 75
Daylighting / big windows	School study: test scores improved by 16-26%
Tree view from workstations	$1,000 investment→6% gain in call handling (299% ROI)

Green retrofits: 1 to 3 percent increase in productivity

The last line in the figure to the right ("tree view from workstations") is associated with an anecdote from the Sacramento Municipal Utility District's LEED Gold certified call center in California. When their employees' workstations were repositioned at an angle such that they could see outdoor trees in their peripheral vision, the $1,000 investment in redesign led to a 6% gain in call handling efficiency, or a $2,990 return.[1]

Green building retrofits, which address indoor environmental quality (IEQ) issues including air contaminants, ventilation, temperature regulation, natural lighting, nature views, etc., have been shown to result in a one- to three-percent increase in employee productivity. Multiplying this percentage by annual ABI payrolls would approximate the monetary value of this productivity increase, or the return on investment (ROI)

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[1] http://www.usgbc.org/articles/roi-biophilic-design-patterns

Retention

After a business attracts the best employees and encourages their maximum productivity, it should then seek to retain those employees over as long a period as possible, to create a stable culture and save the time, money and disruption associated with frequent turnover. We propose a positive feedback loop associated with implementing a sustainable workplace that would ultimately reinforce ABI's values, culture and mission.

ABI has been going through a process of clarifying its mission and values as an organization during 2014. Several of these values (e.g., integrity, innovation and inspiration) would support the business decision to implement a more sustainable workplace. As discussed above, this type of workplace can help to attract the best employees, encourage their productivity, and retain them over time. A stable, healthy, productive group of employees would help to solidify ABI's culture and demonstrate its own values of social connectedness. Even while this process is going well, ABI should check progress and adjust, asking questions such as:

- Are ABI's projects, people & workplace, internal processes and external relationships meeting their sustainability targets?
- Are adjustments needed to the SAP?
- Would any of these changes influence ABI's stated mission and values?

Deliberately engaging employees via this feedback loop and being conscientious about evaluating progress and adjusting as appropriate will help ABI to attract and retain the best employees.

Deloitte Consulting survey of large employers who implemented green retrofits (2008):

- ***93%*** *of respondents reported a greater ability to attract talent;*
- ***81%*** *saw greater employee retention;*
- ***87%*** *experienced an improvement in workforce productivity;*
- ***75%*** *reported improvements in employee health;*

and...

- ***100%*** *experienced an increase in goodwill/brand equity.*

Imperative 4: Reduce and Manage Risks

Thesis: Sustainable management practices create a more resilient organization and program of projects

Risk management for the infrastructure industry typically focuses on considerations of time, cost and quality—important operational concerns that have a direct impact on the bottom line. Sustainability can extend and expand the traditional risk management framework, allowing systematic, early identification and handling of a wider range of risks to improve the triple bottom line – people, planet and profit.

ABI operates in a multi-layered and complex regulatory framework composed of numerous environmental and social regulations relevant to the infrastructure industry. These rules range from brownfield remediation standards to stormwater regulations to requirements for hiring minority & local contractors. A reactive stance toward regulatory compliance can be expensive, potentially resulting in unexpected cleanup costs, last-minute hiring processes, cost overruns and other costly outcomes.

ABI can choose to proactively meet, exceed and even anticipate relevant environmental and social guidelines related to the infrastructure industry. Moving beyond compliance requires close communication with the regulatory community to anticipate future changes. Benefits of this proactive approach may include:

- Greater resilience to regulatory changes and other unforeseen circumstances.
- Access to regulatory incentives and/or entitlements that would not otherwise be available.
- Information and strategy to help manage longer-term strategic issues (resource shortages, energy costs, etc.).
- Improved project/asset management (related to "management efficiencies" above).
- New partners/stronger relationships with existing partners.
- Enhanced community support/reduced opposition.

> *Sustainability practices can help ABI move beyond compliance.*

When looking for opportunities to reduce and manage risks, ABI should ask:

- What are the greatest vulnerabilities for our organization?
- How can a sustainability framework help us expand our risk awareness, move beyond compliance and improve the bottom line?
- How can more staff become aware and engaged in risk management?

Imperative 5: Strengthen Brand

Thesis: Sustainable practices strengthen organizational brand.

Implementing sustainable practices before they are required or fully expected by the public, offers a number of benefits related to ABI's brand. First and most importantly, ABI's partners and the general public (taxpayer) indirectly grant ABI its license to operate. They do so by registering their acceptance or approval of ABI's economic, environmental and social performance. Without partner and public approval, ABI would not have sufficient standing to continue its work. Simultaneously maintaining—and clearly communicating—all three types of value will protect and solidify ABI's license to operate while also strengthening brand integrity and public trust.

> "Maintaining the intangible social license to operate is particularly relevant to businesses that depend on government consent and/or... good stakeholder relationships"
> --Dr. Stapledon, CIEAM, 2012

ABI and the Atlanta BeltLine have already earned status as a thought leader due to the ambitious scope and scale of the project. By more purposefully implementing and communicating its commitment to sustainability, ABI can increase its status and role as a thought leader in sustainable redevelopment.

ABI's conduct can set the bar for partners, contractors and other service providers who might be hired by ABI to implement sustainable practices on project sites.

When looking for opportunities to strengthen brand through sustainability, ABI should ask:

- Which sustainability areas, concepts and strategies are naturally aligned with our brand?
- How can we better communicate our previous and ongoing success stories in the language of sustainability?
- What do we plan to require of our partners and contractors? Are we prepared to apply these same standards to our own operations?

ABI Staff Input on Definitions and Value Proposition

An important component of the all-staff "Why" meeting was to solicit feedback regarding the draft sustainability definition and value proposition presented in this chapter. Break-out groups were organized according to the three *internal* SAP themes for ABI:

- Internal processes (groups 1 and 2)
- External relationships (group 3)
- ABI people and workplace (group 4)

The remainder of this chapter provides highlights from the break-out discussions.

Part 1: React to Draft Definitions

ABI staff was offered a draft definition of sustainability for their consideration. This draft definition, based on language from ABI's 2030 Strategic Implementation Plan (SIP), was provided in two formats—visual (see image on right) and written:

"Sustainability" for the Atlanta BeltLine program of projects means: Identifying and implementing solutions to Atlanta's environmental, social and economic challenges. ABI implements sustainability for the Atlanta BeltLine via its people and workplace, internal processes, and external partnerships.

A majority of staff were neutral or positive toward this definition. A few voiced the concern that the definition was too broad (e.g., "the BeltLine cannot be the solution to all of Atlanta's challenges."). Others thought it was too cumbersome (e.g., "doesn't roll off the tongue."). However, at the conclusion of the SAP process, the original definition was only changed slightly. It was upheld as the most accurate and complete definition, capturing a sense of action and vision that matches ABI's identity and scope.

Part 2: Develop Example Strategies

Break-out groups offered example sustainability strategies related to their SAP theme. The chart on the following page offers a selection of strategies, mapped to the relevant sustainability goal(s) and SAP theme area(s).

Strategy	Relevant Sustainability Goals	Internal Process	External Relationships	People & Workplace
Reduce office energy, water and paper use (IT efficiency, paperless office)	Environmental, Economic	X		X
Support active commuting	Environmental, Social			X
Redesign office to encourage staff collaboration, employee health, and productivity	Environmental, Social, Economic	X		X

Strategy	Relevant Sustainability Goals	Internal Process	External Relationships	People & Workplace
Engage employees via mentoring/ professional development; non-monetary compensation; staff events/office culture	Social, Economic	X		X
Incorporate flexible or mobile electronic resources (laptops, tablets)	Social, Economic	X		
Workflow management, manage meeting time, improve internal communication	Social, Economic	X		X
Upgrade/update office infrastructure, equipment and service contracts	Economic	X		
Develop a sustainability communications strategy and transparency policy	Social		X	
Deliver program on-time and on-budget as promised; provide guidelines and regulations for project developers	Social, Economic	X	X	

Part 3: Relevant Business Imperatives

Each break-out group constructed a matrix relating proposed example strategies to the five business imperatives to look for patterns and relationships. The two groups considering internal processes found connections between nearly every suggested strategy and all five business imperatives. The external relationships group found the strongest connection between their proposed strategies and the business imperatives of reducing/managing risks and strengthening brand. The highest-ranked business imperatives for the people and workplace group were "engage employees" and "improve efficiency," though relationships between proposed strategies and nearly all business imperatives were identified.

Part 4: Relationship Between Sustainable Practices and Project Success

All four break-out groups recognized the potential value of a more thorough and holistic application of sustainable practices within ABI and Atlanta BeltLine projects. Group 1 closed their discussion by identifying several keys to successful implementation of the SAP:

"You can't manage what you don't measure."

1) All strategies need measureable outcomes and regular reporting.
2) In early stages, sustainable practices may need to be incentivized or rewarded.
3) All staff must be able to define sustainability at ABI and in relation to their specific job.
4) All staff must be able to communicate the value of sustainability and model at work and home (like Southface staff).